Historical Encyclopedia

OF WESTERN AUSTRALIA

Edited by Jenny Gregory & Jan Gothard

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Every effort has been made by the editors to ensure that the
information is accurate at the date of publication. If you find any
errors please contact the editors through the Centre for WA History
at The University of Western Australia.

Cover image: The image of Western Australia's floral emblem on the
cover is from a painting of a Yellow kangaroo paw, *Anigozanthos pressii*
(Albany 1960) by acclaimed botanical artist and historian Rica Erickson.

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WESTERN AUSTRALIA

0   100   200   300   400   500 km

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Kalumburu

Wyndham

Kununurra

INDIAN   OCEAN

Derby

King

Leopold   Ranges

BROOME

Fitzroy Crossing

Halls Creek

NORTHERN

DUNCAN   RD

GREAT

GREAT

NORTHERN   HWY

PORT HEDLAND

Dampier

Wickham

Roebourne

Barrow Island

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NORTHERN   HWY

GREAT

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Onslow

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NORTH WEST COASTAL   HWY

Tom Price

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Coral Bay

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W   E

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GOVERNMENT OF WESTERN AUSTRALIA

Department of Land Administration

Introduction

The *Historical Encyclopedia of Western Australia* is an authoritative and comprehensive guide to Western Australian history. It provides an outstanding reference for researchers, teachers, students and the general public that will enable them to locate information about significant events, institutions and places, themes and topics in the history of Western Australia.

Until the publication of this encyclopedia there has been no one central resource where it has been possible to find information about the history of the state. It is almost a century since the state had a reference work like the *Cyclopedia* created by State Librarian J. S. Battye in 1912, and nearly thirty years since the widely acclaimed volumes in the sesquicentenary series, published in 1979, and the publication of C. T. Stannage's edited collection *A New History of Western Australia* in 1981. Since then, the amount of research into Western Australian history has mushroomed. In the last three decades a large number of theses has been researched and written, and many books and issues of the state's flagship journal *Studies in Western Australian History* have been published. But none of this outstanding research into Western Australian history has been accessible in a single source. The historiographical contribution of the *Historical Encyclopedia of Western Australia* in synthesising the results of this surge of scholarship into a single, easily accessible format is immense. It is a landmark in Western Australian historical scholarship.

The *Historical Encyclopedia* will reshape the way we understand history in Western Australia. It is at the forefront of current methodology in historical research. Grand narratives of the past, postulating a single view of history, have been rejected in favour of multiple voices and multiple perspectives. Historical sources have been interpreted anew, and the histories of groups once marginalised or ignored have been included. Aboriginal contributions to the encyclopedia, on subjects as diverse as Aboriginal theatre and Nyoongar land clearing, have given added depth to our understanding of Western Australian history. Contributions have come from a wide range of disciplines, with scientists, social scientists and other scholars in the humanities joining with historians to contribute to this endeavour. The recognition that everything is susceptible to historical analysis has provided a broader understanding of what has usually been thought to constitute Western Australian history, so that subjects that have not previously been explored in historical terms are included. Entries on various aspects of the history of science, for example, from astronautics to zoology, or the

history of the environment, from acclimatisation to water management, stand alongside more traditional subjects of historical inquiry, like foundation and early settlement, secession and royal tours.

Existing histories of Australia have not often incorporated the unique Western Australian historical experience well. Yet Western Australian history is of considerable academic significance, providing greater depth to our understanding of the nation's history as a whole. Two examples will suffice. European colonisation of the North-West did not begin until the mid 1880s. It was one of the last parts of Australia to be settled by Europeans and hence its contact history is distinctive. But as well, because much of this history is within living memory, it allows us special insight into the experience of contact history. Western Australia was one of the first states to enfranchise women, and this has given the feminist movement in Western Australia a distinctive quality. Comparison with the development of feminism in other states provides a heightened understanding of the nature of Australian feminism as a whole.

The *Encyclopedia* is an invaluable point of reference. The unique history of this state provides a crucial point of comparison for policy makers, educationists and researchers Australia-wide, and indeed world-wide. In a post-industrial, post-colonial world, the pervasive force of globalisation has had two seemingly contradictory results—the growth of cultural homogeneity and regionalisation. With the global homogenisation of culture, there is greater awareness of the importance of so-called 'regional' culture. Western Australian history, once considered peripheral to national history, is gradually being recognised for the way it enriches Australian history and contemporary understandings of the past. A significant aspect of the encyclopedia is its potential to help to satisfy this growing awareness.

The idea for an historical encyclopedia of Western Australia germinated in the early 1990s when noted urban historian Professor Ken Jackson visited Perth. In his keynote address at the 'Visions of the City' Symposium held at The University of Western Australia in July 1992, he spoke with enthusiasm of the encyclopedia of New York City, on which he was then working. Since then, scholarly presses in the United States, in particular, have published a number of historical encyclopedias. Ken Jackson's *Encyclopedia of New York City* (1995) joined the encyclopedias of Cleveland (1987), Indianapolis (1994) and Utah (1994), and was followed by Los Angeles (1997), Chicago (2004), New Jersey (2004) and New York State (2005).

Commenting on the proliferation of encyclopedia projects in the United States, the President of the American Historical Association concluded that they represent a need 'to take stock by seeking the synthesis of all the specialised knowledge scholars have produced in the last decades'. She suggested that they are also a response to public concern over historical truth that has been highlighted by the increasing use of historians as expert witnesses in legal cases. This has been the case in Australia too, where historians are frequently called to give evidence in native title cases. Historians

have also been in the media spotlight to an unprecedented extent in recent years. Australia's History Wars pitted media commentators and others against historians, particularly over the veracity of oral sources and the interpretation of 'facts'. More recently the federal push for a national curriculum in Australian history for secondary students indicates that politicians, as well as historians and the wider public, have a keen interest in the way in which Australia's national history is portrayed.

The *Historical Encyclopedia of Western Australia* joins similar works that have appeared in other states of Australia in recent years. These include the *Oxford Companion to Australian History* (1998), co-edited by Graeme Davison, John Hirst and Stuart Macintyre; the *Wakefield Companion to South Australian History* (2001), edited by Wilf Prest and Kerrie Round; the *Companion to Tasmanian History* (2005), edited by Alison Alexander; and the *Encyclopedia of Melbourne* (2005), edited by Andrew Brown-May and Shurlee Swain. We consulted these fellow travellers in other states in the early stages of this project and thank them for their enthusiasm and advice.

Like those encyclopedias, this *Historical Encyclopedia* has an alphabetical structure. Broad themes, however, underpin the encyclopedia—Aboriginal peoples, agriculture and pastoralism, communications and transport, convicts, defence, education, environment, exploration and foundation, gender, health, history, heritage, industry, law, literature, media, migration, mining, music, performing arts, place, politics, public works, science, social life, social movements, spirituality, sport and recreation, visual arts, welfare, work and labour. Entries for each theme were developed through discussions with the Editorial Advisory Board and at a workshop of more than ninety historians held at The University of Western Australia in January 2003. The entries range from 200 to more than 3,000 words in length, longer articles providing an overview of the current state of research in these key fields. Fundamental to these entries is the identification of gaps in our knowledge and the way in which new research findings impact on and can alter our interpretation of Western Australian history.

The *Historical Encyclopedia* has acted as an innovative catalyst for future research. Our understanding of the range of historical fields has been extended by its development. We aimed to cover as many potential historical fields as possible and this took us into new areas where historical research was negligible. Hence the encyclopedia includes innovative entries on aspects of the history of such themes as science, manufacturing, law, environment, communications, visual arts, and performing arts. Much of this information is not covered in existing publications. There are gaps, however, where research has been too limited and the available information too fragmentary for inclusion. Every care has been taken to ensure the accuracy of each entry but a venture such as this will always necessarily be a work in progress, as ideas about what constitutes history shift, as research uncovers more material and knowledge continues to evolve. The content of individual entries remains the responsibility of contributing authors.

Introduction

The editorial team made a number of decisions early in the project that have guided the work. First, from its inception the *Encyclopedia* was underpinned by a philosophy of inclusion on the basis of race, ethnicity, gender and class. Aboriginal peoples have in many ways been excluded from numerous earlier accounts of WA history. Hence the *Encyclopedia* set out to be culturally sensitive and responsive to Aboriginal communities, to recognise Aboriginal knowledge and Aboriginal peoples as custodians of that knowledge. The advice and opinions of Indigenous members of the Editorial Advisory Board and Indigenous expert readers were sought in developing the list of entries for the *Encyclopedia*, and Aboriginal people were invited to research and write entries dealing specifically with Aboriginal history.

Second, after much discussion it was decided not to include biographical entries in the *Encyclopedia*, as the *Australian Dictionary of Biography* already provides an outstanding reference for biographical information. Third, at the end of each entry it was decided to provide 'see also' and 'further reading' sections to facilitate cross-referencing between entries and assist readers in following up information of interest. Finally, a preview of the *Encyclopedia* was made available online, thanks to the team at the UWA Arts Multimedia Centre. The website at www.cwah.uwa.edu.au has included 'WA Snapshots', condensed versions of entries that appeared in the *West Australian* newspaper in 2004 and 2005; and a selection of the best entries in a Share Your History competition, held in response to keen community interest in the project; as well as historical photographs and films supplied by the J. S. Battye Library of WA History and the Berndt Museum of Anthropology at UWA.

The extent of support for the *Historical Encyclopedia of Western Australia* has been outstanding. With nearly 600 contributors and expert readers, as well as an Editorial Advisory Board of twelve, an editorial staff of two, and a number of support staff, it has truly become a People's Historical Encyclopedia.

In consequence, very many thanks are due. Most particularly to the writers who contributed their expertise to the encyclopedia with such remarkable generosity of spirit; to Jan Gothard, who, as General Editor, shouldered an enormous burden of work, bringing a keen and perceptive intellect to the task; to Virginia Rowland, who, as Research Associate, was an ever-efficient and cheerful anchor point for the project; to Jean Chetkovich, who, then as Associate Director of the Centre for WA History at UWA, handled a range of administrative and budgetary tasks with proficiency and equanimity; to the Editorial Advisory Board and to the expert readers for sharing knowledge accumulated over many years and for giving guidance whenever it was needed. Special thanks are due to Jill Milroy, Dean of the School of Indigenous Studies at UWA, for her very substantial role both as an advisor and as an expert reader. The writing of indigenous entries was also supported by Hannah McGlade and then by Narelle Thorne, who, thanks to the then Premier the Hon. Dr Geoff Gallop, was seconded from the Department of Indigenous Affairs to work on the Indigenous aspects

Jenny Gregory
Editor-in-chief
University of Western Australia

Editors

Jenny Gregory is Professor of History and Head of the School of Humanities at The University of Western Australia. She was previously Chair of History at UWA (2007-08), Director of UWA Press (1998-2006) and Director of the Centre for Western Australian History (1989–97, 2000–06). Her books include *City of Light: a history of Perth since the fifties*, the award-winning *Building a Tradition: a history of Scotch College*, and the edited collection *On the Homefront: Western Australia and World War II*.

She is a Fellow of the Royal Historical Society and was President of the History Council of WA (2001-06). Now Chair of the National Trust of Australia (WA), in 2001 she was awarded a Centenary Medal for her services to the community as President of the National Trust (WA).

Jan Gothard teaches Australian history at Murdoch University. Her major publications include the prize-winning book *Blue China: Single Female Migration to Colonial Australia*, *Asian Orientations: Studies in Western Australian History*, and the co-edited collection *Legacies of White Australia: Race, Culture and Nation*.

She is editor of the *Oral History Association of Australia Journal* and a former Director of the Centre for Western Australian History. Her research and community interests focus on migration, disability and oral history, and in 2001 she was awarded a Centenary Medal for services to literature and to society.

Editorial Advisory Board

Contributors and Readers

ABBOTT, Ian
Department of Environment and Conservation

ABBOTT, Kellie
University of Western Australia

ACASTER, Ray

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BLOOMFIELD, Noelene E.
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Murdoch University

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University of Western Australia

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National Trust of Australia (WA)

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University of Western Australia

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University of Western Australia

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Curtin University

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CARMAN-BROWN, Kylie
Australian National University

CARPENTER, Shane

Contributors and Readers

CARROLL, Robyn
University of Western Australia

CARTER, Bevan

CARTER, Jennie
State Library of Western Australia

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Silver Chain

CASELLA, Antonio

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CHASE, Diana

CHETKOVICH, Jean
University of Western Australia

CHINNERY, Robin
Professional Historians Association (WA) Inc

CHOO, Christine
University of Western Australia

CHRISTENSEN, Joseph
University of Western Australia

CHRISTENSEN, Will
Curtin University

CHRISTIAN, Bret

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University of Western Australia

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University of Western Australia

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University of Western Australia

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DAVIDSON, Ron

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University of Western Australia

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DAVIES, Sharon

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Curtin University

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DEMKIN, Irena

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University of Western Australia

DENCH, Paul

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Murdoch University

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Curtin University

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University of Western Australia

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Curtin University

FISHER, Lynn

FITZGERALD, Criena Jean
University of Western Australia

FLETCHER, Laadan

FLETCHER, Ted

FLETCHER, Tony

Contributors and Readers

FLOOD, Michael
Australian National University

FOLEY, Gerard
State Records Office Western Australia

FORD, William
University of Western Australia

FOREMAN, Wally

FORRESTAL, Peter

FOX, Charlie
University of Western Australia

FOX, Joe
Kimberley Land Council

FOXGLOVE, Della

FOZDAR, Farida
Murdoch University

FUHRMANN, John

FYFE, Allison
State Library of Western Australia

FYFE, Christopher

GALLAGHER, Michael

GARG, Atul

GARSWOOD, Luke

GAVA, Dino

GAYNOR, Andrea
University of Western Australia

GAYNOR, William E.

GENEVE, Vyonne

GEORGE, Alex S.
Murdoch University

GEORGE, Doug
State Library of Western Australia

GIBBS, Martin
University of Sydney

GIFFORD, Peter

GILL, Andrew

GILLGREN, Christina

GLAMORGAN, Adrian
Curtin University

GLOVER, John
University of Western Australia

GOLLOW, Morris M.

GOODCHILD, Brian
Department of Land Administration

GOODING, Janda
Australian War Memorial

GOTHARD, Jan
Murdoch University

GRAHAM, John

GRAHAM-TAYLOR, Sue
Western Australian Museum

GRANT, Beryl

GREEN, Barry J.

GREEN, Neville

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GREGG, Alison

GREGORY, Jenny
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GREGORY, Ross

GREHAN, Helena
Murdoch University

GRIFFITHS, Philip
Considine and Griffiths Architects

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GROVES, David Ian
University of Western Australia

GURNEY-PRINGLE, Chantal

GURRY, Desmond

GUTHRIE, Robert
Curtin University

HAEBICH, Anna
Griffith University

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University of Western Australia

HALSE, Norman

HAMILTON, Margaret

HAMILTON-SMITH, Elery

HARPER-NELSON, John

HARRISON, Marcia

HARTLEY, Richard G.

HASKELL, Dennis
University of Western Australia

HAUSTORFER, Anthony M.

HAY, Alexander

HENDERSON, Graeme
Western Australian Museum

HENDERSON, John
University of Western Australia

HENDERSON, Yvonne
Equal Opportunity Commission,
Western Australia

HERCOCK, Marion
University of Western Australia

HETHERINGTON, Penelope
University of Western Australia

HEYMAN, Jos

HILL, Brian V.
Murdoch University

HILL, Terry

HILLMAN, Karen

HISLOP, Kate
University of Western Australia

HOCKING, Ian

HODGSON, Helen
University of New South Wales

HOLT, John J.
Glasgow Caledonian University

HOOK, Milton

HOPKINS, Angas
Department of Environment and Conservation

HOPPER, Stephen

HORDERN, Marsden

HOUGH, David
University of Western Australia

HOWARD, Keith

HOWELL, Steve
State Library of Western Australia

HUISMAN, John
Murdoch University

HUMPHRIES, Rachel

HUNT, Dave

HUNT, Harold

HUNT, Lyall

HUNT, Lynne
University of Southern Queensland

HUNTER, Tamara

HUTCHISON, David

HYDE, Dylan

IFE, Jim
Curtin University

IKIN, Van
University of Western Australia

ISSA, Boutros Touma

ISSA, Theodora

JACKSON, Audrey

Contributors and Readers

JAECKEL, Heather
Murdoch University

JAGGARD, Ed
Edith Cowan University

JAMES, Alan
Sir Charles Gairdner Hospital

JAMES, Colin
University of Newcastle

JAMIESON, Ronda
State Library of Western Australia

JAYASURIYA, Laksiri
University of Western Australia

JEBB, Mary Anne
University of Western Australia

JEFFERY, Chris

JENNINGS, Ian

JOHNSON, Les

JOHNSTON, Peter W.
University of Western Australia

JOHNSTONE, R. E.
Western Australian Museum

JONES, Peter F.

JOSKE, R. A.

KABIR, Nahid

KAINO, Lorna
Edith Cowan University

KEIGHERY, Greg
Department of Environment and Conservation

KELLY, Catherine

KELLY, Ian

KENNEDY, Simon

KERR, Rosemary
Curtin University

KESSON, Anna
University of Western Australia

KHANGURE, Edith
*St John Ambulance Australia
(Western Australia) Inc.*

KINDER, John J.
University of Western Australia

KINNANE, Stephen
Murdoch University

KLEINERT, Sylvia
Charles Darwin University

KNOTT, Brenton
University of Western Australia

KOSKY, Michele
Health Consumers Council

KOTAI-EWERS, Trish
Murdoch University

KRANTZ, Valerie

KRASNOSTEIN, Alisa
Department of Environment and Conservation

KREIDER, Richard

KWAYMULLINA, Blaze
University of Western Australia

LAFFEY, Paul
University of Western Australia

LANGE, Cheryl
University of Western Australia

LANGFIELD, Michele
Deakin University

LAURIE, Maxine

LAWE DAVIES, Rosalind

LAWRENCE, Steven
Western Australian Institute of Sport

LAWRINSON, Julia
Parliament of Western Australia

LAYMAN, Lenore
Murdoch University

LEADBETTER, Bill
Edith Cowan University

LEONARD, Bill
Western Australian Museum

LEONG, Jane
University of Western Australia

LINDSAY, David
University of Western Australia

LINDSAY, Ian

LINDSAY, Rae
University of Western Australia

LIVERIS, Leonie B.

LLOYD, Natalie
University of Western Australia

LOCKWOOD, Richard

LOFTHOUSE, Marion

LOGUE, Fred

LONDON, Geoffrey
University of Western Australia

LONG, Kevin
St Thomas More College

LONGNECKER, Nancy
University of Western Australia

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LUCCHESI, Alexandra
Perth Mint

LUCKETT, Margaret J.

LUDBROOK, Juliet

LUDEWIG, Alexander
University of Western Australia

LUNT, Anthony

LYNCH, Nathan

MACBETH, Jim
Murdoch University

MACINTYRE, Stuart
University of Melbourne

MACKNIGHT, C. C.
Australian National University

MADDERN, Philippa
University of Western Australia

MADDOCK, Jocelyn

MAIN, Barbara York
University of Western Australia

MALONE, Trisha

MANVILLE, Julie

MARCHANT JAMES, Ruth

MARGETTS, Dee

MARSH, David

MARSH, Loisette
Western Australian Museum

MARTENS, Jeremy
University of Western Australia

MARTIN, Graeme B.
University of Western Australia

MARTIN, Mary Corina
Murdoch University

MARTINS, Audrey C.

MARWUNG WALSH, Aileen
University of Western Australia

MASLIN, Bruce
Department of Environment and Conservation

MAY, Sally R.
Western Australian Museum

MAY, Tom W.

MCCABE, Tim
Curtin University

Contributors and Readers

MCCARTHY, Michael
Western Australian Museum

MCCLELLAND, Jan

MCCLELLAND, Peter

MCCOMB, Arthur
Murdoch University

MCCUE, Kevin

MCDONALD, Ean

MCDONALD, Gil

MCGLADE, Hannah

MCILWRAITH, John

MCKAIL, Cecily

MCKEOUGH, Michelle
Murdoch University

MCKEWON, Elaine

MCLAREN, Glen

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Western Australian Museum

MCNULTY, Jim

MEEMEDUMA, Pauline
Edith Cowan University

MEGAHEY, Norman

MELVILLE, W. Ian

METCALF, William J.
Griffith University

MEYER, John A.

MIA, Tjalaminu
University of Western Australia

MILLER, Geoff

MILLETT, P. R.
University of Western Australia

MILLS, Brian

MILLS, Jamie 'Stormie'

MILLS, Jenny

MILLWARD, Michael
University of Western Australia/
Sir Charles Gairdner Hospital

MILROY, David

MILROY, Jill
University of Western Australia

MITCHELL, Robert
National Trust of Australia (WA)

MOLYNEUX, Ian

MOORE, Garrick
Curtin University

MOORE, Richard K.

MORAN, Rod

MOREL-EDNIEBROWN, Felicity
University of Western Australia

MOREY, Sue
Sir Charles Gairdner Hospital

MORGAN, John

MORGAN, Neil
University of Western Australia

MORGAN, Sally
University of Western Australia

MORRIS, Narrelle
Murdoch University

MORRISSEY, Karen

MORTON, Alan
University of Western Australia

MOSSENSON, David

MOULDS, Tony

MUIRDEN, Peter
Department of Environment and Conservation

MULLER, Craig

MURPHY, Ffion
Edith Cowan University

MURRAY, Keith O.

MURRAY, Sandra
Fremantle Prison

MURRAY, Suellen
RMIT University

NEAL, John

NEESHAM, Pamela

O'BRIEN, Brian J.

O'BRIEN, Collin
University of Western Australia

O'CONNOR, Michael

O'CONNOR, Susan
Australian National University

OFFICE FOR WOMEN'S POLICY

O'HARA, John

OLIVER, Bobbie
Curtin University

OLSON, Wesley

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University of Western Australia

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University of Western Australia

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Murdoch University

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V & C Semeniuk Research Group

SEMENIUK, Vic
V & C Semeniuk Research Group

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University of Adelaide

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University of Western Australia

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University of Western Australia/
Sir Charles Gairdner Hospital

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University of Western Australia

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Department of Indigenous Affairs

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Gymnastics WA

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WINN, Phillip

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Curtin University

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YASMEEN, Samina
University of Western Australia

YIANNAKIS, John N.
Curtin University

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Notes for Readers

Entries in the *Historical Encyclopedia of Western Australia* are arranged alphabetically.

At the end of each entry, under the heading 'See also' is a short list of other related entries. In some cases, a reader may be directed to a general heading rather than to a specific entry, for example, 'See also' might refer to 'Asian migration', rather than to the individual entries 'Asian immigrants, nineteenth century' and 'Asian immigrants, twentieth century'.

'See also' suggestions are not exhaustive. An on-line index to the names of individuals and places in the Encyclopedia can also be accessed at www.cwah.uwa.edu.au.

Readers will also find suggestions for 'further reading' at the end of each entry. These comprise bibliographical references of up to three or four relevant and accessible published sources. Theses have been cited in some cases where few other sources are available. Online references have not generally been included unless no other relevant accessible sources are available. In a small number of cases an entry has been based entirely on unpublished sources and no suggestions for 'further reading' have been possible.

This volume does not include biographical entries. Readers are directed to the *Australian Dictionary of Biography*, now available online, for detailed biographical information on Western Australians.

This volume generally follows the English spelling and usage set out in the *Macquarie Dictionary* and the AGPS *Style Guide*. As there is no accepted standard spelling of Aboriginal words, most spellings of Aboriginal words have been left in the form preferred by the writer.

Titles that are commonly abbreviated are spelled out in full when they first appear in each entry, with any abbreviation to be subsequently used within the entry in brackets, thus, Australian Labor Party (ALP).

Imperial currency (pounds, shillings and pence) is generally cited where historically appropriate. One pound (£) was the equivalent of two dollars ($2) at the time of decimalisation in 1966. We draw your attention to the Reserve Bank of Australia's inflation calculator (http://www.rba.gov.au/calculator/calc.go).

The geographical regions referred to within the encyclopedia correspond to the regions delineated by the Western Australian government's Department of Local Government and Regional Development.

Readers will find a number of useful appendices of historical information at the end of the volume.

A

Aboriginal administration Under the original Australian Constitution, Aboriginal administration was a state responsibility. In 1944, a referendum to transfer this legislative power to the Commonwealth was supported by Western Australia but defeated on the basis of a majority of Australian votes and a majority of states. In May 1967 the Australian Constitution was amended to allow the Commonwealth government to make laws for Aboriginal people and to include them in a national census. The application of this power was seen in the creation of the Commonwealth Department of Aboriginal Affairs in December 1972; this became the Aboriginal and Torres Straits Islander Commission in 1990 and was abolished in 2005.

In WA, Aboriginal administration passed through four major policy periods: amalgamation, protection, assimilation and self-determination. Amalgamation (1839–c. 1850) was a policy conceived by the British Colonial Office to enable the Aboriginal population to become educated Christian workers in colonial society. In WA this policy was implemented by Governor John Hutt (1839–46). Schools for Aboriginal children opened in Perth, Fremantle, Guildford, Wanneroo, York, Albany and New Norcia. Settler disinterest and parental resistance doomed the policy.

Protection (c. 1850–1950) sought through local laws to protect, segregate and control Aboriginal people and was formalised in the *Aborigines Protection Act 1886* and a succession of Acts and amendments. Between 1886 and 1897, Aboriginal welfare was a matter for the Aboriginal Protection Board. In 1897

Premier John Forrest created an Aborigines Department and appointed Henry Prinsep the first Chief Protector of Aborigines.

Assimilation (1951–72), a Commonwealth initiative adopted by the states, opposed segregation and anticipated the assimilation of all Aboriginal people into mainstream Australian society. Under this policy, discriminating legislation was repealed and access to social services, housing and schooling improved. Many considered that the assimilation policy made too many assumptions about what was in the best interest of Aboriginal Australians. In 1973 a policy of self-determination, also a Commonwealth initiative, replaced assimilation as policy designed to give Aboriginal people a voice on all matters affecting their wellbeing.

The bodies and departments responsible for Aboriginal people in WA under these policies were: successive governors (1829–97) assisted by an Aborigines Protection Board (1886–97); Aborigines Department (1897–1936). Between 1909 and 1926 the

Group of Aboriginal people sitting in front of banner welcoming Premier to Geraldton, n.d. *Courtesy* West Australian *(HIST 1088)*

administration of the Aborigines and Fisheries Departments merged, and in 1920 the Chief Protector, A. O. Neville, was both Secretary for the Department of the North-West and responsible for Indigenous affairs above the 25th parallel, near Carnarvon. At the same time, Fred Aldrich, the Chief Inspector of Fisheries, became the Deputy Chief Protector for all Aboriginal matters south of Carnarvon. In 1926 the Aborigines Department was re-established under Neville. In 1936 the Chief Protector became Commissioner of the Department of Native Affairs (1936–55) and later of the Department of Native Welfare (1954–72). In 1972 individual welfare was transferred to the Department of Community Welfare and a new department, the Aboriginal Affairs Planning Authority (1972–94) was more community oriented. This was successively renamed Aboriginal Affairs Department (1994–2002) and Department of Indigenous Affairs (2001–). Throughout this period of Aboriginal administration in WA, only two Indigenous persons, Sue Lundberg (later Sue Gordon) and Cedric Wyatt, headed a department. **Neville Green**

See also: Aboriginal education; Aboriginal legislation; Aboriginal protectors; Citizenship, Aboriginal; Section 70
Further reading: P. Biskup, *Not slaves, not citizens: The Aboriginal problem in Western Australia 1898–1954* (1973); P. Hasluck, *Black Australians: A survey of native policy in Western Australia, 1829–1897* (1970)

Aboriginal art, Indigenous perspectives
From time immemorial art has been central to the cultures of Aboriginal peoples. Art carries the essence of cultural and spiritual beliefs and reflects an understanding of all creation, the connections to ancient Laws and ceremonial rituals and the reciprocal nature of human and animal existence. It also documents the trials and tribulations of Aboriginal peoples' journey through the

Dreaming, which encapsulates past, present and future. The Dreaming embraces all Aboriginal peoples and lands.

Aboriginal people are the Indigenous owners and custodians of the land, but with the arrival of the British in 1788, they have been made to live within the confines of a culture and social system alien to their own traditions and practices. Legislation and government policies that governed Aboriginal people have progressively eroded their cultural, spiritual, physical and emotional wellbeing. In the first decade of the twentieth century, Aboriginal people continue to face cultural disruption, physical displacement, discrimination and exploitation. Their living conditions are often the poorest in their own country. These and other issues are now being addressed within artworks that help shape a new Aboriginal Australian landscape within a cultural and spiritual context, at state, national and international socio-political levels.

Aboriginal artists from a traditional background express their culture by maintaining old links and forging new ones between their own communities and urban and regional areas, stimulating a resurgence of art practice regarding responsibility to land, their specific country, ceremony, men and women's Law business, family groups, collective community business and cultural renewal leading to the nurturing of same country, different country alliances. This is apparent in the works by Warlayirti Artists (established 1987) from the remote Balgo community in the East Kimberley, especially the women artists like Eubena Nampitjin, Susie Bootja Bootja and Mati (Bridget) Mudjidell whose works are steeped in cultural Law practice. Their imagery moves the viewer to delve further into the mysteries of both the arid, mysterious landscape they paint as well as the laws and rituals they depict.

West Kimberley artist and Bardi man Roy Wiggan also maintains this through his artworks, known as *Ilmas*, which tell of a history

measured in thousands of years, yet at the same time embody a lively spirit of cultural rejuvenation. This is displayed consistently throughout the 1990s within his *Big Storm* series of works.

Another artist's work from the Kimberley, Rover Thomas, a Kutatja/Wangkajunga man from Warmun (Turkey Creek) community, also addresses significant cultural aspects of country, which highlight images and references to roads, bridges, places and events that have happened to his people, including the remembered massacres that he has visually documented in several of his works from stories passed down to him from his Elders. These works also reflect dominant topographic features and specific places of spiritual significance for the Kutatja/Wangkajunga people.

With his maternal uncle, artist Paddy Tjamitji, Rover Thomas developed and produced a wonderful series of artworks known as the *Krill Krill* (*Kurirr Kurirr*), from the early 1970s to early 1980s, which at that time was very significant to them both and their people. These pieces came from a collaboration between the two in the creation of a special *palga*, a commemorative ceremony that evolved from a series of revelatory dreams experienced by Rover Thomas, who was taken by a spirit over the Kimberley landscape and shown sites of significance relating to an elderly Warmun woman who had died there a short time before, following a car accident.

In creating the *Krill Krill*, Rover asked his uncle Paddy to compose a series of decorative boards illustrating specific sacred places referenced in song verses composed by Rover. These boards were carried on the shoulders of dancers as each sequence of the song cycle was performed. Thirty-one verses of the cycle were created, each with a related painting. Paddy's paintings encompassed both literal and symbolic references to landscape features: hill ranges, salt pans, riverbeds, boab trees, spirit beings and features of the

landscape such as the Kununurra bridge were depicted in stark contrasting surfaces of black, yellow and red ochres, often further highlighted by white dotting. These types of paintings were produced exclusively for ceremonial use, until the early 1980s, when an expanded interest in contemporary aspects of Aboriginal art and the process of adaptation and reinterpretation of traditional themes began to be accepted within the mainstream of contemporary Australian art. Rover Thomas began to create his own paintings (versions of the *Krill Krill* subjects) around 1983–84, and though his works drew much of their formulation and materials from his uncle Paddy's earlier paintings, they quickly showed a distinctive variation both in composition and in their wide-ranging subject matter, which subsequently explored physical and spiritual aspects of the Kimberley well beyond the subjects of the *Krill Krill*.

Another artist who has captured the essence of the Kimberley landscape in his work is renowned East Kimberley artist Jimmy Pike, a Walmajarri man from the Great Sandy Desert. He began his career as an artist in 1980–81 and has been recognised for his unique contemporary vision, style and use of colour. As with other Aboriginal peoples in the North-West regions, Jimmy's people have also had disruptions and changes imposed on them, but nonetheless have retained a strong, direct relationship with country and their spiritual inheritance. This is reflected in Jimmy's early black and white screen-print works, *Japingka—Dreamtime Story I* (1985) and *Warnti* (1985), which encompass symbolic references to people, spiritual ancestors, country, maintaining sacred waterholes and the enactment of ceremonial rituals practised over millenniums.

Urban-based contemporary Aboriginal artists also reflect within their artworks a deep understanding of a spiritual and cultural continuum. Contemporary expressions need to be viewed within the context of a

holistic tradition of cultural expression. This emergence of contemporary art practice has been characterised by interchanges between Aboriginal Australia and the various policy frameworks since colonisation. With increased artistic dialogue between the urban, regional, cultural, governmental and commercial spheres, important and exciting opportunities for exchange have arisen at both personal and collective levels. This has led to a greater recognition of the importance of respecting and valuing cultural diversity.

Internationally renowned artist Sally Morgan is a Palyku/Nyamal woman whose artwork not only invites the viewer to admire her unique style and use of colour but to explore and examine events that have affected Aboriginal people historically. Sally has not limited her artistic expression or her advocacy for human and civil rights for Aboriginal people to the visual arts, but has also used writing as a powerful tool to highlight social justice issues that have affected her family and other Aboriginal people. Her artwork *Greetings from Rottnest* (1988) and her book *My Place* (1987) are both expressions of her ability to engage her audience to open their minds to her world view.

Yamatji artist Irwin Lewis takes a confrontational approach when examining the impact of the past on the present with his work *Untitled* (1997), which has a focus on the harsh realities of the taking of land and the oppression of people. This work also reflects stories passed from generation to generation of the massacres that transpired throughout the state.

In Yamatji/Nyoongar artist Norma McDonald's work *Deaths in Custody* (2003), the focus is on the incarceration of Aboriginal youth in a contemporary context. In this painting, Norma draws the viewer to step inside her work, to feel the loss of identity and self-worth and to experience the feeling of separation from family, land and culture.

Another renowned artist is Julie Dowling, a Yamatji/Nyoongar woman whose bloodline link to country is to the Badimaya people of the Gascoyne region of Western Australia. Her artwork *Uncle Freedom* (2000), which is in black and white portraiture style, a style adapted to humanise her subject matter, depicts family members and their experiences of historical events and life journeys.

Other significant Nyoongar artists include Shane Pickett, Sandra Hill, Jody Broun, Chris Pease and Lance (Tjyllyungoo) Chadd, who, at the beginning of the twenty-first century, had all been painting for a number of years. Their artworks have been included in the Aboriginal collection at the Art Gallery of WA as well as in other major collections in Australia and overseas.

Aboriginal artists reflect within their works significant socio-political and reconciliatory focuses as well as cultural themes and processes that are based around distinctive cultural beliefs and practices. While their styles, form and subject matter appear strongly divergent from one another, many of their themes and concerns remain the same: the need to honour the land, the importance of cultural maintenance, and the ongoing struggle for human rights and equality. **Tjalaminu Mia**

See also: Aboriginal art, pre-contact; Aboriginal culture and society; Carrolup child artists; Kurirr Kurirr ceremony; Prisoner art
Further reading: B. L. Croft with J. Gooding, *South west central: Indigenous art from south Western Australia 1833–2002* (2003); T. Mia, *Daughters of the dreaming: Sisters together strong* (1997); M. O'Ferrall, *Jimmy Pike— desert designs 1981–1995* (1995)

Aboriginal art, pre-contact The long history and regional diversity of Aboriginal pre-contact art in Western Australia reflects the history and dynamic character of Aboriginal occupation. The marking or modification of objects or surfaces and the use of symbolic systems seems to be common to all human societies, past and present, and were certainly part

of the cultural repertoire of the first people to occupy WA some 50,000 years ago. Our knowledge and understanding of Aboriginal pre-contact art, however, is limited by problems of both dating and preservation.

Ancient rock art is difficult to date, mainly because it is rare to find art in association with datable material. Ochre pigments have been found in ancient deposits in many sites and a fragment of painted rock excavated at Carpenter's Gap rock shelter in the Kimberley dates back about 40,000 years. Evidence for personal adornment comes from a find of shell beads dating back about 32,000 years at Cape Range. Problems of preservation mean that only certain types of art survive. For example, decorations on wooden artifacts or people's bodies, paintings and drawings on bark and sand drawings generally do not survive. We know that all these figured in pre-contact Aboriginal art, from descriptions, drawings and photographs by European observers, but very few examples exist today. What does survive is art on rock surfaces. Artists used natural pigments to execute paintings and drawings, as well as stencils. The other main set of techniques involved marking the rock surface by pounding or scratching to produce a petroglyph. In the soft surfaces of some limestone caves, fingers were used to make designs of meandering lines.

Rock art of different styles can be placed in relative time order through study of superimposed images. The subjects shown in rock art can also sometimes act as time markers. Depictions of extinct species of animals or of European artifacts are examples of this.

Ethnographic evidence shows that art can be produced in a wide variety of social contexts for a range of social purposes, both sacred and secular, and may have a number of different levels of meaning. In Aboriginal Australia, symbolic systems commonly involve the expression of beliefs about the Dreaming and serve to maintain group identity and connections to country. Some recent traditions of rock art can be interpreted and understood in terms of contemporary Aboriginal art. In the case of very ancient art, however, meaning is less easily accessible because of changes in social organisation and adaptation to a changing environment over 40,000 years and more.

The pre-contact art of WA falls into four broad regional groups, each with distinctive characteristics in terms of style, technique and subject matter.

The Kimberley region has a rich and complex rock art sequence. Cupules (small pecked depressions in the rock) occur in the region and these are thought by some archaeologists to be among the oldest rock art in Australia. The oldest paintings are known as Bradshaw figures, after the European pastoralist who first described them in 1891. These are finely painted depictions of human figures, often shown in ceremonial costumes with material culture items and apparently engaged in ceremonies or other activities. Bradshaw figures seem to be related to early art styles found elsewhere in tropical Australia, including Arnhem Land. Kimberley people today believe that these paintings are the work of ancestral beings and belong to the Dreaming. Direct dating of mudwasp nests covering Bradshaw figures has given a minimum age of about 17,500 years. The more recent art of the Kimberley is estimated to date to the last 5,000 years and is dominated by the spectacular Wandjina paintings. These anthropomorphic figures are commonly painted with a range of plant and animal foods and are associated with rain and increase ceremonies. Wandjina figures were repainted regularly as part of ceremonies to ensure rain, and remain an integral part of ceremonial life in the region.

The rock art of the Pilbara is dominated by petroglyphs. Large galleries of engravings exist in a number of localities, including Woodstock-Abydos on the Upper Yule River, the Fortescue River, Port Hedland area and Depuch Island. The most dramatic is the Dampier Archipelago, with an extraordinary

diversity of images, including anthropomorphic figures, animals and geometric designs, some of which probably date back more than 20,000 years. The area has many examples of a number of regional styles as well as its own unique motifs. The Dampier petroglyphs are considered to be of World Heritage status.

Many rock art sites in the Pilbara are under threat from industrial development. Thousands of petroglyphs have been destroyed or moved as a result of industrial development in the Dampier area and on the Burrup Peninsula since the 1960s. Approval has recently been given, for example, for a rail line through the Woodstock-Abydos reserve.

Rock art is rare in the South-West, but this is most probably because suitable rock surfaces for making images are also rare. A few painting sites have been recorded and some limestone caves have finger markings.

Central Australian art commonly features geometric designs and animal tracks, but figurative images also occur. Some of this art is thought to be very ancient, possibly extending back to the first occupation of the arid zone, about 30,000 years ago. Designs that feature in the rock art, both ancient and more recent, also feature in sand drawings, body designs and decorations on both sacred and secular objects. They are also used in contemporary Aboriginal art such as acrylic painting. The rock art of desert regions of WA has not yet been studied in detail, but sites are now known in a number of areas such as the Calvert Range, Warburton Range and the Durba Hills. **Caroline Bird**

See also: Aboriginal art, Indigenous perspectives; Carrolup child artists; Kurirr Kurirr ceremony; Massacre paintings
Further reading: I. M. Crawford, *The art of the Wandjina* (1968); J. Flood, *Rock art of the Dreamtime* (1997); M. J. Morwood, *Visions from the past: the archaeology of Australian Aboriginal art* (2002); B. J. Wright, *Rock art of the Pilbara region, north-west Australia* (1968)

Aboriginal child labour Indigenous child labour was a significant component of colonised labour in all settler societies. While all child workers were open to exploitation, the situation of Indigenous children as colonised peoples made them particularly vulnerable. Given the geography and demographics of the colony of Western Australia, employers inevitably looked to Aboriginal children aged from around six to sixteen for unpaid, exploitable labour. Many were abducted from their families by employers and sold on; others were driven in by family deaths and starvation, as well as interest in colonial goods and society, or by missionaries' 'civilising' ambitions. They worked as domestic servants and labourers, on farms and in town and as stock workers on pastoral stations, often learning their skills on the job. Denied legal protection or removed from family support, most lived precarious lives under the control of their employers. They were unpaid, overworked and often treated brutally. Young women who fell pregnant were abandoned by employers. This treatment continued despite advances for other colonial children. They were not included when compulsory schooling was introduced in 1870; instead they could be trained in institutions and sent out to employment (*Industrial Schools Act 1874*). Numbers of children in missions increased from this time. The intention was to create permanent mission communities of settled worker families. Alarming allegations of child abductions and slavery in the North-West in the early 1880s led only to the introduction of child apprenticeships that protected employers' interests. (*Aborigines Protection Act 1886*). Despite some state intervention and control from 1905, colonial patterns of Aboriginal child labour persisted into the mid-twentieth century. Investigation by the Roth Royal Commission in 1904 of new allegations of child slavery in the North contributed to legislation making the Chief Protector of Aborigines guardian of all Aboriginal and 'half-caste' children to the age

of 18, with full responsibility for Aboriginal education, institutions and employment (*Aborigines Act 1905*). This provided the foundation for the system of institutionalised training and government-supervised employment that persisted into the 1950s. It began with forced removal of children from their families to institutions such as Moore River and Carrolup Native Settlements, to be trained as farm and domestic workers. From around the age of 12 they were sent out to work for meagre wages under government supervision.

While statistical data on Aboriginal child workers is scant, the 70 institutions established for their training in WA between 1842 and the 1960s suggest widespread use of their labour and public acceptance of the practice. While incontrovertible evidence of institutionalised adults dramatically shifted mainstream child welfare practice towards keeping other children within family units, Chief Protectors maintained that their charges were learning how to work in the wider community and that after three generations they would be fully absorbed. In fact, miserly funding and neglectful schooling, training and care of the children, and then negligent supervision of conditions and wages in employment, left the young people trapped in a vicious cycle of poverty and institutionalisation. From the 1950s, under the policy of assimilation, the system was gradually dismantled: institutions were closed, schooling was made compulsory and Aboriginal youth were channelled into new types of employment under award conditions. However, families continued to experience the legacy of generations of economic obstacles and deprivations, forced separation from family, culture and land and appalling treatment resulting from government neglect of its fiduciary duty. This has been publicly acknowledged in government inquiries and reports, campaigns for justice for the Stolen Generations and the return of stolen wages and the many creative works by Indigenous writers and artists.
Anna Haebich

See also: Aboriginal administration; Aboriginal labour; Aboriginal legislation; Aboriginal protectors; Children; Stolen generations
Further reading: A. Haebich, *Broken circles: fragmenting Indigenous families 1800–2000* (2000); A. Haebich, *For their own good: Aborigines and government in the southwest of Western Australia, 1900–1940* (1992); P. Hetherington, *Settlers, servants and slaves: Aboriginal and European children in nineteenth-century Western Australia* (2002); A. Nannup, L. Marsh and S. Kinnane, *When the pelican laughed* (1992); National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from their Families (Australia), *Bringing them home: report of the national inquiry into the separation of Aboriginal and Torres Strait Islander children from their families* (1997); G. Ward, *Wandering girl* (1995)

Aboriginal culture and society Aboriginal peoples are the oldest continuous culture on earth. Archaeological evidence indicates that Aboriginal peoples have been in Australia for at least 60,000 years and some evidence suggests that this could extend to 120,000 years or more. Many Western theories propose that Aboriginal people originally 'migrated' to Australia from Asia thousands of years ago when seas were shallow, but many Aboriginal people dispute this. Aboriginal peoples have always been here, we are born of our Mother, this land.

Aboriginal people have a complex system of Law, knowledge and beliefs, which is often referred to as the Dreaming. 'Dreaming' is an English word that is generally used to describe the overall concept shared by all Aboriginal people, but each Aboriginal group has its own particular name in their own language, which they prefer to use, such as *Tjukurrpa*, which is used by Pila Nguru, the Spinifex people.

In many cases the Aboriginal meaning of the term is actually 'Law'. The Dreaming explains how the features of the landscape were made, how plants, animals and people all came into being. It tells stories of the journeys of the great ancestor spirits who, after shaping and forming the landscape, went back into the spirit places, where they still are today. These places are often referred to as sacred sites. The Dreaming gives Aboriginal people language and, most importantly, Law.

While the terms for the Dreaming vary, many stories are shared and song lines or dreaming tracks cover the Australian continent. As these are the journeys of ancestors, then everyone along a particular storyline, song line or dreaming track will be related, since they share a common ancestor. An example of this is Seven Sisters Dreaming. The Aboriginal worldview is holistic and animate whereby all things are living: not just plants, animals and people, but also rocks, wind, clouds and the land itself. Everything is related and has feelings, value and purpose. In the Dreaming, Aboriginal people were given responsibility to look after land and animals but they are also related to, and part of the natural world, not set apart from it. For Aboriginal people, this everyday natural or physical world is interconnected and continuous with the spiritual world, and past, present and future all exist in the same time and space.

Aboriginal culture is a relationship-based society where everyone is part of the kinship system. In skin group systems, classificatory relationships are defined in family terms, such as who is one's sister, mother, uncle, or grandparents. Aboriginal people need to know how they are related to one another in order to work out what is owed or required in terms of behaviour and responsibilities: how they should address people; when they can speak; who can and cannot be spoken to directly; and whom they can marry. Aboriginal children traditionally grow up in large extended families with lots of mothers, fathers, brothers and sisters as well as grandmothers, grandfathers, aunties, uncles and cousins. All Aboriginal groups have kinships systems and networks that define relationships in the immediate group, but also relationships to Aboriginal people from different areas. Kinship and skin groups operate more strictly in some areas of Western Australia than others, but kinship and family networks remain supremely important to all Aboriginal groups, giving everyone a clearly defined role and a place in Aboriginal society. They also reinforce Aboriginal ideas of reciprocity and sharing.

For Aboriginal people, land is our mother and country, home, identity, the basis of knowledge, Law and ceremony. The relationship with the land is an intensely intimate one, spiritual as well as physical; land is not an economic commodity that can be brought and sold in the Western sense. Prior to colonisation, Aboriginal peoples lived rich spiritual and physical lives full of songs, stories, dance and ceremonies, in healthy, environmentally sustainable communities with their own languages, knowledge and education systems. Aboriginal peoples still fight to maintain these today. Aboriginal Dreaming stories, kinship systems, language and understandings of the physical and spiritual worlds are an intrinsic part of Aboriginal history, and this can be seen in publications from Aboriginal authors, such as David Mowaljarlai's *Yorro Yorro. Everything standing up alive: spirit of the Kimberley* (1993), and *Tjarany: Roughtail* by Gracie Greene, Joe Tramacchi and Lucille Gill (1993), which shows Kukatja people's relationships and understandings of their country and kinship systems. Many Aboriginal people have published Dreaming stories. May O'Brien, a leading Aboriginal author, has published a number of Wongkutha stories as children's books including *Wunambi the Water Snake* (1991).

In 1770, Lieutenant James Cook claimed the east coast of Australia as a British possession, and in 1788 the British invasion of the east coast of Australia established the colony

of New South Wales. This presumption of *terra nullius,* or land belonging to no one, ignored Aboriginal sovereignty and rights to land. At colonisation, it is estimated there were up to one million Aboriginal people, with some 250 Aboriginal languages and up to 600 'nations', each with its defined territory and system of Law intimately connected to each other, but as distinct from each other as the nations in Europe. Every part of Australia was owned, loved and cared for by Aboriginal peoples. The British invasion of the western third of the continent began in 1829, with the taking of Nyoongar lands and the foundation of the Swan River colony by James Stirling. The Swan River colony marked the final British claim to the entire continent, excluding other European colonial powers and leading ultimately to the establishment of a single nation on the continent. In addition to the physical presence of the colonists, colonisation imposed on Aboriginal people alien ideas and values, political, economic and legal systems and the English language. Ideas about land and its value, as well as beliefs about Aboriginal people, were used by the British to justify taking the land and dispossession of Aboriginal peoples, not just as an economic imperative but as a moral imperative as well. British colonisation was underpinned by an unshakeable belief in British superiority and by racist assumptions about the nature of Aboriginal society.

The imposition of a single term 'aborigines' to describe the people of the entire continent precluded any understanding of the diversity of the large number of Aboriginal language groups in Australia and the arbitrariness of colonial borders and internal boundaries, which cut across traditional territories. Aboriginal peoples in WA include Nyoongar, Yamatji, Wongkutha, Ngadju, Mirning, Yinjibarndi, Banjima, Gurrama, Nyamal, Palyku, Nyiyapali, Mardu, Nykina, Bardi, Bunuba, Kukatja, Jaru, Nyul Nyul, Walmajarri, Gija, Miriuwung Gajerrong and many more. The imposition of a new language, English, and

the labelling of Aboriginal languages as primitive or 'rubbish' languages, the banning of Aboriginal languages by missions and punishment of children and adults for speaking the 'devil's tongue' had a devastating effect on Aboriginal society.

The Swan River colony was founded as a private settlement with a land grant system for free 'settlers' based on the assets and labour they brought with them. This was despite clear evidence of Aboriginal ownership and custodianship of land and recognition of property rights noted by colonists and government officials including the Native Interpreter, F. Armstrong, who observed of Aboriginal people in 1836 that 'the right of property is well recognised among them… the land appears to be apportioned to different families.' As colonists fenced off land, traditional foods and medicines disappeared, as well as kangaroos and other animals used for skin cloaks and bags. The influx of colonists also brought diseases for which Aboriginal people had little natural resistance, with reported epidemics of measles, whooping cough, influenza and smallpox devastating Aboriginal communities from the 1830s to the 1880s. The introduction of venereal diseases and leprosy also severely affected Aboriginal people.

By 1833, within four years of colonisation in WA, Nyoongar resistance leaders such as Midgegooroo and Yagan, reputed to be among the first Aboriginal people to greet Stirling when he originally surveyed the country in 1827, had died in defence of their lands and were officially proclaimed 'outlaws'. Midgegoroo was captured, sentenced without trial and summarily executed by firing squad; while Yagan was shot and killed, his head cut off, smoked and eventually placed on public exhibition in England. In 1834 the 'Battle' of Pinjarra—the slaughter of Aboriginal men, women and children by an armed party led by Governor Sir James Stirling, Captain Ellis and J. S. Roe, the Surveyor General—was seen by the colonists as the end of resistance by the

Tribal boundaries in Aboriginal Western Australia existing at the time of first European settlement, section of map of Indigenous group boundaries first published in Norman B. Tindale, Aboriginal Tribes of Australia, *University of California Press, 1974*

Murray River tribe. However, a general fear of attack still prevailed in the colony, centred on settlements at York and outlying areas to the east and north of Perth. As colonists moved further into Aboriginal lands, Aboriginal people responded and resisted these incursions.

Imperial policy decreed that British settlement had the dual roles to 'civilise' and 'Christianise'. From the beginnings of the Swan River colony different groups tried desperately to achieve this latter aim, though many early attempts failed. The apparent 'success' of New Norcia Mission just north of Perth, established in 1846 by Bishop Salvado, encouraged the establishment of the Catholic mission at Beagle Bay in 1891 and the spread of missions through the Kimberley. For Aboriginal people, missions provided some protection from frontier violence, as well as food and other basic necessities, but too often missions were also a site for harsh punishments, the destruction of traditional languages, beliefs and ceremonies, and the separation of children from their families through dormitory systems and other devices. Missions were also given responsibility for the education Aboriginal people were to receive, which was often limited to grade three or below, with girls trained for domestic work and boys as unskilled labour.

Colonisation also brought a new legal system. Under British colonial law, Aboriginal people became subjects of the Crown and were entitled to, but did not often receive, the protection of British law. With the new legal system, many aspects of Aboriginal behaviour—including resisting the invaders and defending Aboriginal lands from explorers and pioneers—were defined as 'criminal' rather than military actions. Prisons were a key element of colonial control and many in the colony's North were used almost exclusively for Aboriginal prisoners. In 1841 Rottnest Island (called Wadjemup by Nyoongar people) was formally constituted as a prison, though Aboriginal prisoners

had been sent there from 1838. More than 3,000 Aboriginal men and boys were sent to Rottnest Prison from all parts of WA; and 354 Aboriginal prisoners died in custody on the island. Aboriginal people today are still subject to disproportionately high rates of incarceration, in large part stemming from this colonial legacy.

By the 1850s the Nyoongar people of the South-West had been decimated but the pattern of violent dispossession, massacres, reprisals and incarceration continued throughout the colony as new areas were 'explored' and grazing and pastoral lands were opened up for development. When the Geraldton region was 'settled' in the 1850s violence was endemic from the very beginning, as it was for the Pilbara region in the 1860s and the Kimberley from the 1880s. The strong resistance in the Kimberley, led by Jandamarra and the Bunuba Resistance, held the colonists at bay for three years until Jandamarra was killed in 1897. Settlers' requests to the government that 'for a period after first settlement, a district be free from the application of law', was to allow them to deal with the Aboriginal population as they saw fit. The frontier was very personalised as individual colonists staked claims to large areas of land and often justified frontier violence as self-defence or a pre-emptive measure to protect against attack from Aboriginal people. This created a powerful and pervading 'pioneer myth' that WA was legally and peacefully settled. The dependency of northern pastoral stations on Aboriginal labour at least allowed some Aboriginal people working on stations to remain in or near their traditional country, maintaining their language and fulfilling ceremonial and cultural obligations. However, for Aboriginal people law and policing were punitive and protection non-existent, with Residents, magistrates and Justices of the Peace drawn from local landowners with vested interests in the economic exploitation of Aboriginal labour. In reality, the frontier was characterised by

the sexual abuse and kidnapping of Aboriginal women and children, forced labour, poisoning of waterholes, chaining, incarceration and killings of Aboriginal men who were protecting land and families.

Aboriginal oral history recounts frontier massacres including the Flying Foam Massacre that took place just north of Murujuga (the Burrup Peninsula) in 1868, one of several massacres of Yaburara people; and in the Kimberley accounts include La Grange (1864) and continue through to Forrest River (1926). In 1994, in the spirit of reconciliation, the massacre at La Grange was finally acknowledged when a new commemorative plaque was added to the Explorers' Monument in Esplanade Park, Fremantle. To the original tribute to 'explorers' killed at La Grange in 1864 was added an inscription calling for acknowledgement of 'the right of Aboriginal people to defend their land' and of 'the history of provocation which led to the explorers' deaths', as well as to the deaths of around twenty Aboriginal people the following year. The plaque concluded with 'Lest we forget. Mapajarriaya-Nyalaku'.

Some massacres have only been spoken about publicly by Aboriginal people in recent years; based on oral history accounts that have been handed down they have been presented in various Aboriginal art forms. 'Fire Fire Burning Bright', a story of a massacre (c. 1915) of Gija and Worta people, is based on a traditional corroboree or Joonba, and was performed at the Perth International Arts Festival in 2002. *Blood on the Spinifex,* paintings by artists from East Kimberley depicting massacres at Mistake Creek, Bedford Downs and Chinaman's Garden in the north-east Kimberley (c. 1915–20), was exhibited in Melbourne in 2002.

The *Aborigines Protection Act 1886* signalled the development of the colonial government's legislative solutions to the 'Aboriginal problem' under the guise of care and protection. Aboriginal people became increasingly subject to special race-based

legislation in the twentieth century under the *Aborigines Act 1905*, the *Native Administration Act 1936*, and an array of legislative provisions that extended into the 1970s. The Acts were restrictive and exclusionary, segregating Aboriginal people on missions and reserves, limiting freedom of movement, declaring prohibited areas and curfews, controlling employment, marriage and almost all facets of the daily lives of Aboriginal people. Aboriginal people had little or no access to medical treatment, suitable housing, food, water or sanitation. Under the *Aborigines Act 1905*, police often held the additional role of 'protectors of Aboriginal people', a clear conflict of interest. Reserves for Aboriginal people began from 1874, with land attached to New Norcia Mission, and from the early 1900s Aboriginal people were increasingly confined to reserves, settlements and missions, which included Moola Bulla (1910), Carrolup (1915) and Moore River (1918) as well as 'camping grounds' in the south-west of the state, including Albany, Katanning, Narrogin and Pingelly.

A. O. Neville was in charge of Aboriginal administration from 1915–40, first as Chief Protector and then as Commissioner of Native Affairs. For twenty-five years, across a period when Aboriginal legislation was most restrictive, Neville had unprecedented control over Aboriginal lives, leading many Aboriginal people to refer to him as 'Mr Devil'. From the 1930s, Aboriginal affairs policy began to shift from protection to assimilation; and with the need for a national approach identified, the first national meeting on Aboriginal welfare, The Initial Conference of Commonwealth and State Aboriginal Authorities, was held in Canberra in April 1937. WA was a key participant. During this period there was also intense focus on classifying and defining Aboriginal people generally based around pseudo-scientific notions of how much 'Aboriginal blood' a person supposedly had. The idea of assimilation was extremely broad, but A. O. Neville advocated the most extreme

view of assimilation, involving total biological or physical assimilation, not just social absorption. Neville was a keen follower of eugenics theories and openly advocated 'miscegenation' (intermarriage between Aborigines and 'whites') to gradually 'breed out' Aboriginal skin colour and physical features. According to Neville, assimilation of Aboriginal people would be complete when 'no virile full-bloods remained alive'. Neville was not strongly supported in his ideas and could not bring them to full fruition, though institutions such as Sister Kate's Home, established at Queens Park in 1934, took only 'lighter-skinned' Aboriginal children who it was hoped could eventually be absorbed into the wider 'white' community.

The most devastating consequence of the *Aborigines Act 1905* was to make the Chief Protector (from 1936, the Commissioner of Native Affairs) the legal guardian of all Aboriginal children under the age of sixteen years (extended in 1936 to twenty-one years), enabling Aboriginal children to be removed from their families and incarcerated in missions and children's institutions or adopted. In some cases institutions differed little from prisons, with barred windows, dormitories locked up from sunset to sunrise, even in sweltering heat, and severe punishment regimes, including isolation, for absconding. Sally Morgan's *My Place* (1987) was a watershed in bringing Aboriginal family histories to a wide Australian and international readership, and the film *Rabbit-Proof Fence,* based on Doris Pilkington Garimara's book, brought Western Australia's Aboriginal history to an international screen audience. In 1995, the Aboriginal Legal Service of Western Australia (Inc.) launched *Telling Our Story*, which documented the ongoing trauma of child removal practices in WA. Rob Riley, the CEO of the Aboriginal Legal Service from 1990 to 1995, had been a long-time political activist and campaigner for human rights and social justice for Aboriginal people. In December 1996, Rob Riley was posthumously awarded

the Human Rights Medal by the Equal Opportunity Commission for his lifelong commitment to advancing Indigenous issues in Australia. In 1997, the Human Rights and Equal Opportunity Commission (HREOC) submitted the *Bringing Them Home Report*, concluding that the separation of Aboriginal and Torres Strait Islander children from their families was a gross violation of human rights, racially discriminatory and an act of genocide.

Aboriginal people had few means of escaping the legislative restrictions imposed by the various Aborigines Acts throughout the twentieth century, but could apply for 'exemption certificates' and, later, for citizenship under the *Native (Citizenship Rights) Act 1944*. In 1946, Aboriginal pastoral workers in the Pilbara walked off the stations in a strike for better wages and conditions, drawing widespread attention to the conditions of Aboriginal people in WA and the history of the pastoral industry. From the mid 1950s some of the harsher provisions of the Aboriginal legislation were removed, but the Acts were not finally dismantled and rights given to Aboriginal people in WA until the 1970s. The main impetus for this was the successful 1967 Federal Referendum, which enabled Aboriginal people to be counted in the national census, and gave the Commonwealth power to make laws for the benefit of Aboriginal people. This heralded a shift in national policy towards self-determination and led to the establishment of Aboriginal community-controlled organisations. In WA, this included the Aboriginal Medical Service (AMS) in 1973 and the Aboriginal Legal Service (ALSWA). The Aboriginal Tent Embassy in Canberra in 1972 was a rallying point for Aboriginal land rights claims and calls for national uniform land rights legislation. In 1983 the state Labor government appointed Paul Seaman QC, Commissioner for the Aboriginal Land Inquiry, to investigate Aboriginal relationships to land, to recommend on a 'scheme

of legislation for land-related measures for the benefit of Aboriginal people in Western Australia'. The Seaman Inquiry made its final report in 1984, but the Aboriginal Land Bill was defeated in the Legislative Council in 1985, leaving WA as the only state in Australia that did not enact some form of Aboriginal land rights legislation. It was not until 1992 that the High Court, in *Mabo and Others v. the State of Queensland (No.2)*, rejected the assumption of *terra nullius*, by recognising the traditional rights to land of the Meriam people of the Torres Strait. This paved the way for native title claims under the national *Native Title Act (1993)*. WA had more land potentially subject to claim than any other state due to a high percentage of Crown land and pastoral leases, and opponents of native title, some with vested interests in mining and pastoralism, waged a fear campaign through newspaper advertisements and public forums warning Western Australians that they would lose their 'backyards' as a result of the Mabo judgement. In 2000, the Nharnuwangga, Wajarri and Ngarlawangga peoples of the Murchison–Gascoyne negotiated a native title agreement giving them access to their traditional lands, the first native title agreement in WA.

According to the 2006 census, there were 58,711 Aboriginal people in WA. From the beginning of colonisation, Aboriginal people fought to retain their lands and culture and they continue to do so. Many Aboriginal leaders emerged who were tireless in the pursuit of rights and justice for Aboriginal people in all fields including law, education, health, housing, politics, land rights, culture, heritage and the arts. Many Aboriginal people and communities continue to write and document their own histories, stories, languages and culture. Aboriginal people continue to achieve in all fields of endeavour, in the arts, sports, business and enterprises, the public service, and Aboriginal organisations, and are graduating

from university in a wide range of professions including medicine, law, engineering, teaching and social work. **Jill Milroy**

See also: Aboriginal administration; Aboriginal child labour; Aboriginal education; Aboriginal health; Aboriginal Legal Service; Aboriginal legislation; Aboriginal prisoners; Aboriginal protectors; Aboriginal resistance, South-West; Aboriginal women; Citizenship, Aboriginal; Deaths in custody; Dreaming of the Seven Sisters; Frontier violence, Kimberley; Imprisonment; Massacres; Missions; *My Place*; Native title; Sister Kate's; Stolen generations; Waakarl

Further reading: Aboriginal Legal Service of Western Australia (Inc.), *Telling our story: a report by the Aboriginal Legal Service of Western Australia (Inc.) on the removal of Aboriginal children from their families in Western Australia* (1995); S. Maushart, *Sort of a place like home: Remembering the Moore River Native Settlement* (2003); H. Pedersen and B. Woorunmurra, *Jandamarra and the Bunuba resistance* (2000); C. D. Rowley, *The destruction of Aboriginal society: Aboriginal policy and practice*, 1 (1970); C. T. Stannage, *Western Australia's heritage: the pioneer myth* (1985)

Aboriginal education in Western Australia has been influenced by politics, policies, public attitudes and the Aboriginal response. The three goals of nineteenth-century education were to civilise, Christianise and make children useful as farm labourers and domestic servants. In 1840 the Rev. John Smithies opened a 'Native' school in central Perth; over the next twelve years, 'Native' schools opened in Fremantle, Guildford, Wanneroo and York. In 1845, two Benedictine priests, Father Salvado and Father Serra, chose a mission site that became New Norcia. Six boys were sent to Europe to train as priests and all but one died there. Young girls from New Norcia attended a school near the present

St Mary's Cathedral under Ursula Frayne of the Sisters of Mercy. Other Christian schools for Aboriginal children were at Annesfield at Albany (1852–71), Swan Native and Half-Caste Homes at Guildford (c. 1880–1920), Dulhi Gunyah Home at Victoria Park (1912–16) and the Salvation Army Homes at Collie (1909–10) and Kalgoorlie (1910–16).

In 1849 the General Committee of Education advised Western Australia's Governor Fitzgerald against admitting Aboriginal children to government schools, and although the *Elementary Education Act 1871* made no ethnic distinctions, Aboriginal admittance to schools was not encouraged. Before the *Aborigines Act 1905* was amended in 1936 the Chief Protector was responsible for the education of all Aboriginal children. The Education Department used this clause to justify the exclusion of Aboriginal children until 1933, when premier Philip Collier endorsed integrated schooling and, despite occasional parent protests, this has continued as a general policy to the present time. Notable protests were those at Quairading (1912), Wagin (1933), Pingelly (1941), Carnarvon (1936 and 1948) and Roebourne (1954). The Chief Protector, Mr A. O. Neville, tried to engage teachers for the Native settlements at Moola Bulla, Carrolup and Moore River, but the low pay and poor conditions made staffing difficult until the Education Department assumed control after 1945.

A teacher and a nun teaching Aboriginal students embroidery. New Norcia, November 1945. Courtesy West Australian *(NEWNOR 050)*

Mission schools rarely had qualified teachers and pastoral stations had no schools, so in 1951 the Education Department offered to staff and equip schools on missions and pastoral stations with sufficient numbers of school-age children to warrant a teacher. Mount Margaret (1950) and Forrest River (1952) missions were the first to take up the offer and Gogo (1957) became the first government station school. The policy of access and integration also brought many northern children living on town reserves into government and Catholic schools.

In 1950, welfare and education authorities cooperated to identify talented post-primary children and offered them scholarships to continue their education or training in Perth. Alvan House for girls and McDonald House for boys pioneered a school hostel service that spread across the state. In 1951 Len Hayward graduated as the first trained Aboriginal teacher, followed soon after by Geoffrey Penny and May Miller. Irwin Lewis was the first Aboriginal person in WA to gain university entrance, while Len Hayward became the first Aboriginal principal in 1979. In 2006 there were 114 qualified Aboriginal teachers in WA government schools, with 15 being current or past school principals. Catholic and other independent schools showed a similar commitment to Aboriginal staff and funded off-campus teacher education courses.

The establishment of principles of access and equity and federal policies and funding brought Aboriginal leaders to the fore in the 1970s in policy and curriculum decisions. Preschool and secondary education became priorities and Aboriginal teaching assistants provided confidence and guidance in the classroom. In 1975 Mount Lawley College of Advanced Education established the first tertiary support program for Aboriginal teachers and was an inspiration for universities across Australia to follow suit.

The 1970s also saw the creation of Aboriginal-managed community schools such as at Oombulgurri (1973–78), Strelley

(1976–) and Kulkarriya on Noonkanbah station (1978–), followed in 1980 by the Aboriginal Community College at Gnangara. Other remote community schools are staffed and funded by the state and Catholic systems.

The Catholic Church continues to be a major influence in Aboriginal education and in 2006 had 2,241 Aboriginal children enrolled at all levels. At the same time there were 20,037 Aboriginal students in public schools.

The major concerns in the early twenty-first century continue to be poverty, truancy and the perceived lack of relevance of schooling to everyday life. Positive teaching, community liaison, scholarships and a range of support programs are helping to ensure that Aboriginal students gain the lifelong benefits of education. **Neville Green and Gail Barrow**

See also: Education, Catholic; Education, government secondary; Education, primary; Mission schools; Missions
Further reading: Q. Beresford and G. Partington (eds), *Reform and resistance in Aboriginal education: The Australian experience* (2003); N. Green, 'Access, equality and opportunity?: The education of Aboriginal children in Western Australia 1840–1978', PhD thesis, Murdoch University (2004); S. R. Zubrick et al., 'Improving the educational experiences of Aboriginal children and young people', in *The Western Australian Aboriginal child health survey* (2006)

Aboriginal farmers Approximately thirty-three Aboriginal farmers, including many young families who had been educated at the New Norcia Mission, were granted land between 1892 and 1915. Their grants, made under the 1887 Lands Regulations, the *Aborigines Act 1889* and the *Land Act 1898*, were in the Wheatbelt and Great Southern, and coincided with the growth of agriculture, especially wheat production, in those regions.

Any land thus granted was usually declared a reserve.

Although they generally applied for good farmland and made considerable efforts to develop it, these farmers were beset with problems. Legislation limited their grants to 200 acres, just half of what was then considered the minimum requirement for a viable farm. They were not granted individual titles; hence loans could not be secured and necessary improvements were often not made, leaving the farmers in breach of their allocation conditions. To raise cash, many worked elsewhere, and some were then accused of having abandoned their land. This led to their lands being resumed, with no compensation made for the work done. There were some successes but, lacking financial resources, few Aboriginal farmers survived the droughts of 1911 and 1914.

No further attempts were made until the 1930s, when five more farms were allocated; however, these met the same fate as their predecessors. In the 1950s further efforts were made, particularly in the Esperance region, but these met with a similar lack of success. By 1972, only two per cent of the state's Aboriginal agricultural workforce was self-employed. **Craig Muller**

See also: Aboriginal administration; Aboriginal labour; Aboriginal legislation; Nyoongar land clearing
Further reading: A. Haebich, *For their own good: Aborigines and government in the southwest of Western Australia, 1900–1940* (1992)

Aboriginal firing of the bush was one important aspect of the system of land management by which Aboriginal groups kept their terrain productive. A family group needed to be able to move easily through its estate, from one water source to another, from the patch of ground where they dug their yams to the swamp where the women had the right

to harvest reed rhizomes and gather frogs, turtles and marron. The group needed to move between the campsites appropriate to each season's resources. The women needed open access to the tuber crops that provided the carbohydrate staples on which they relied as the most dependable part of their diverse subsistence patterns. Burning was used to encourage the growth of a new crop of grass, which provided new rich pasture for kangaroo, so that the hunters knew where they would find the prestigious game, which formed a very welcome, but less reliable, component of their diet.

Burning opened up the countryside, particularly along major routeways linking nodes of occupation and resource usage, and so between neighbours foraging in those areas. Occasionally, an owner who had burning rights over a particular area would invite neighbouring groups to join in a fire drive, as well as in the ceremony and sociability that followed.

The overall effects of Aboriginal systematic sequences of burning was to keep the landscape relatively open, particularly around major resource concentrations, such as swamps, lakes and along river valleys. By burning even the less productive areas at irregular intervals, they decreased the danger of destructive fierce conflagrations. Burning also encouraged the growth of those tuberous plants that need forest-edge habitats.

Above all, the Aboriginal combination of systematic sequential burning with a random component vastly increased the degree of biodiversity within any given region. Superimposed on the ecological pattern due to differences in soils, relief, aspect and climatic zonation, Aboriginal firing added a fine mosaic of patches last burnt a few months ago, a few years ago, and decades ago. They produced habitat patches that suited those species that optimally required relatively frequent burning to remain productive, and other patches from which species needing lower frequencies could spread. Their generally high frequency/low intensity patchy

burns left hollow logs and trees providing shelter for mammalian and invertebrate species, and avoided the risk of high-intensity wildfires destroying the canopy and killing mature trees.

Aboriginal Australian people used fire as a tool to create, conserve and exploit fine-grained habitat mosaics; thus they increased the carrying capacity of the land so that, over time, rising numbers of people were supported. Firing had a crucial role in creating the habitable Australian landscapes that greeted Europeans on arrival. **Sylvia Hallam**

See also: Aboriginal land and people, South-West; Aboriginal population, contact; Bushfires; Environment
Further reading: I. Abbott, 'Aboriginal fire regimes in south-west Western Australia: evidence from historical documents' in I. Abbott and N. Burrows (eds), *Fire in ecosystems of south-west Western Australia: Impacts and management* (2003); S. J. Hallam, *Fire and hearth: A study of Aboriginal usage and European usurpation in South-Western Australia* (1975); S. J. Hallam, 'Peopled landscapes in Southwestern Australia in the early 1800s: Aboriginal burning off in the light of Western Australian historical documents', *Early Days*, 12, 2 (2002)

Aboriginal health When British colonists arrived in 1829, they noted that even in arid areas, Aboriginal people were masters of their own environment and showed evidence of longevity and good health. Nearly two centuries later, however, Aboriginal people have still not recovered from the impact of first contact. Dispossession of land severely disrupted their previously stable hunter and gatherer society and led to dependence on the dominant invaders. The final outcome was a fractured society.

Before first contact, Aboriginal people were generally healthy and employed a range of natural remedies and healing methods.

The main problems were injuries inflicted by spears, boomerangs or clubs, snakebites and other wounds. Treatments included hot earth baths, leeches, cool and mud baths in lakes for fever and sea bathing for skin diseases. Inhalation of herbal smoke from Swan River sandalwood, a treatment now identified as beneficial against bacteria, was used extensively by South-West Nyoongar. Berries were rich in vitamin C, and eucalypts and tea trees were used to treat colds and as antiseptics.

Because Aboriginal people lived in isolation, first contact had devastating effects on their health. Contact with colonists as well as earlier contact with trepang fishers from Makassar resulted in the introduction of respiratory and gastro-intestinal infections, skin diseases, smallpox, measles, influenza, venereal diseases and leprosy. Epidemics affected the Aboriginal population severely in some cases, though the number of Aboriginal deaths was not officially recorded. However, colonists noted large numbers of 'sickness camps' and diminishing numbers of Aboriginal people, particularly children and old people. Epidemics included reports of cholera and whooping cough in the South-West (1832–33), measles and influenza (1841), and whooping cough (1864). Measles and influenza in 1883–84 also caused the deaths of Aboriginal prisoners on Rottnest. Smallpox outbreaks were reported from York, Roebourne, Cossack and the Kimberley Coast. As was commonly said, 'jangga meenya bomunggur': 'the smell of the white man kills us'.

The sexual abuse of Aboriginal women and children accompanied the violent frontier and brought with it sexually transmitted infections. In response, 'natives' infected with venereal and other diseases (including leprosy) were transported in chains to offshore islands, such as the Lock Hospital established in 1907 on islands off the coast of Carnarvon.

Ill health also resulted from dispossession and rejection from colonial settlements. The destruction of Aboriginal hunting grounds and traditional foods restricted access to material resources. There were also severe penalties imposed for killing sheep and other livestock as an alternative food source. Forbidding the practice of Aboriginal culture and language meant loss of knowledge of traditional medicines and healthy lifestyle practices.

Paternalistic and ethnocentric views discrediting almost all aspects of Aboriginal culture increased poor self-esteem and psychological stress. As well as the removal of people from their traditional areas to missions and incarceration on islands offshore, violence was rife and took its toll on whole communities. As a result of dispossession and family separations, people were left to die a long way from home or never to return to their people again. Missions with barbed-wire perimeters were akin to concentration camps. Aboriginal men on horseback were used to track and recapture runaway children. Children were often demoralised rather than bettered by education. Constant pressure in the classroom resulted in mental stress, affecting the holistic interdependence of social, spiritual and physical wellbeing, which causes the deterioration in health. Malnutrition and poor diets in institutions also affected child health; skin diseases such as scabies, impetigo and head lice were an outcome of poor housing and lack of facilities. Morbidity and mortality rates of children reflect the health of the society; and Aboriginal babies are still more likely to be stillborn or die soon after birth compared with those born to non-Indigenous mothers.

When the colonialists first arrived drunkenness was rife among the newcomers. The Aboriginals were shocked to see the people lose control of themselves, which they saw as a symptom of anomie, separation from their 'Mother Land'. The state of anomie exists when there is no sense of belonging to any system and the state of powerlessness causes further psychological breakdown. This is symptomatic of the issues associated with drugs, alcohol, and petrol sniffing that Aboriginal communities deal with today.

Changed lifestyles after colonisation led to consumption of processed food, foreign fats, and proteins, a benchmark for obesity leading to lifestyle diseases such as diabetes, which has become a pandemic with as many as one in five Aboriginal people affected in the early twenty-first century. The onset of diseases traditionally associated with ageing occurs among Aboriginal people approximately twenty-five years earlier than in broader society. Mature onset diabetes is increasingly occurring in Aboriginal teenagers, and Aboriginal people as young as twenty are dying of heart attacks.

Prior to the 1970s, Aboriginal statistics were not systematically recorded. While Australian health status figures overall were comparable to those of other leading first-world countries, when Aboriginal people were included the overall health status dropped considerably. In an effort to put Aboriginal health back into Aboriginal hands, the first Aboriginal Medical Service was established in Redfern, NSW, in 1971. The Perth Aboriginal Medical Service (now Derbarl Yerrigan Health Service) was established in 1973, with a doctor and voluntary Aboriginal staff. In consultation with community, the issues of child health morbidity and mortality were addressed. The Broome Regional Aboriginal Medical Service was established in 1978 and a range of WA Aboriginal community-controlled health organisations followed. Aboriginal Health Worker Education Programs began in 1983 to help address health problems at the grass roots level. In 1990 Aboriginal health courses, including management and policy, commenced at the Centre for Aboriginal Studies at Curtin University. Education is the key to Aboriginal success in overcoming new health challenges. **Joan Winch**

See also: Aboriginal culture and society; Aboriginal prisoners; Bungarun; Deaths in custody; Public health; Rottnest Island Native Prison

Further reading: J. Cramer, *Sounding the alarm: Remote area nurses and Aboriginals at risk,* 2005; B. Genat, *Aboriginal health workers: Primary health care at the margins* (2006); A. Haebich, *For their own good: Aborigines and government in the southwest of Western Australia, 1900–1940* (1992)

Aboriginal labour in Western Australia has largely been the history of Aboriginal people subjugated and trapped in servitude to Europeans. This entry, as an Aboriginal perspective, takes into account contrasting accounts of forced labour. However, it must be acknowledged that behind each positive account are many more negatives. The history of Aboriginal labour is a history of survival against a backdrop of invasion and colonisation.

In the early Swan River colony, Aboriginal people worked as guides for explorers and surveyors, trackers, police aides and constables in the administration of 'Native Affairs'. Others worked in the whaling industry or helped maintain the mail services between the early settlements. The importation of convicts from 1850 pushed Aboriginal people further down from their already lowly position in the developing economy. For many Nyoongar men it became necessary to leave and look for seasonal work or try to survive on the fringes of the colony. On the other hand, the labour of Aboriginal women and children as domestics remained in high demand.

Though convicts were introduced into WA from 1850 to serve as a supply of labour, it was unlawful for convicts or ticket-of-leave men to work north of the Murchison River. Consequently Aboriginal labour was essential to the success of any industry in the North. By 1881 there were 2,346 Aboriginal people working north of the Murchison, mainly in the pastoral and pearling industries. By 1901 this figure had risen to 12,000. Aboriginal people usually worked on stations where they were the original landowners and

were thus able to maintain their connection to their country. Men generally worked as stockriders, station hands, shepherds, fence and bridge builders, land clearers, well-diggers, water-carters, stockriders and horse-breakers, wool-scourers, donkey-team drivers, camel drivers and station domestics. For Aboriginal women and children, the work of a station domestic was generally onerous, drudging and repetitive: collecting water, washing and cleaning around the homestead and caring for the children of their white mistresses.

By the end of the nineteenth century, the pastoralists had become a powerful and wealthy sector within the colonial economy, and were able to use their power to lobby government whenever any legislation was introduced that might affect their control of Aboriginal people, on whom the pastoralists' capacity to work their enormous properties depended. Many pastoralists also extended their enterprises into the pearling industry. Pearling began in the late 1860s and pearlers forced Aboriginal men, women and children as young as six to dive for pearls and shells. W. B. Kimberley wrote in 1879 that one European with the expenditure of only three bags of flour, 'wages to the natives', could secure ten tons of shell, valued at £1,000. When Aboriginal people became scarce around pearling townships, the pearlers resorted to stealing Aborigines from further afield, a practice known as 'blackbirding'. The pearling industry was also associated with 'barracoons' slave markets, selling Aboriginal women.

The various gold rushes in the late nineteenth century enabled Aboriginal people to take up jobs left by the Europeans as they sought their fortunes on the goldfields. The *Mines Regulation Act* of 1895 specifically forbade the employment of Aboriginal people in any capacity in the goldmining industry, though a few individuals did speck for gold. Thousands of European men and their families from the eastern colonies stayed on in WA after the gold rushes

and Aboriginal people were again ousted from the jobs they had been filling. Trade unions were very active against Aboriginal employment at times of adverse economic conditions, as it was not considered right that Aboriginal people should be working when Europeans were not.

Slavery was outlawed throughout the British Empire in 1833 and was replaced with a new form of forced labour called indentures, which in WA were enforced by the *Masters and Servants Act 1841* where agreements or contracts of service were used to keep indentured servants from running away. These were used extensively to control Aboriginal labour. Few Aboriginal people were paid proper wages for their labour. For the most part they were 'paid in kind', that is, they were fed—tea, flour, tobacco, offal, perhaps a bullock once in a while for those on stations; housed—in a shed away from the house; and clothed once a year. Even these 'in kind' wages were subsidised by colonial governments who distributed allowances to those who kept Aboriginal people on their properties or missions.

These conditions were maintained by colonial and state legislation that legally subjugated Aboriginal people to maintain the virtual free use of their labour. When Aboriginal people were excluded from the *Masters and Servants Act* in 1892, a range of other acts of Parliament were used to restrict and control their work. Legislation that regulated Aboriginal labour included the 1841 *Act to constitute the island of Rottnest As a Legal Prison*, the 1886 *Aborigines Protection Act*, the 1897 *Aborigines Act*, the *Criminal Code Act 1901–1902*, the 1903 *Dog Act*, the 1905 *Aborigines Act*, the 1936 *Aborigines Act Amendment Act* and the 1944 *Native (Citizenship Rights) Act*. The last legislation specifically relating to Aboriginal labour was the 1954 *Native Welfare Act* which was repealed in 1972 in the context of the dismantling of this restrictive legislation, after which Aboriginal people began to enter the free Western Australian workforce.

In the northern pastoral industry, working conditions and pay for Aboriginal people remained vastly inferior to those of non-Aboriginal people, and in 1946 Pilbara pastoral workers went on strike for better wages. In 1967 the Federal Arbitration Court gave Aboriginal workers equal pay, but the application of a 'slow workers' clause meant that they still received lower wages than non-Aboriginal workers. Aboriginal workers finally received equal wages in 1969 but the consequences were dire. For many, their fate was unemployment in towns.

At the beginning of the twenty-first century, Aboriginal people have relatively equal access to education and work in the arts, film and television, education, medicine and law, social work, mining and the police force. The primary sources of employment are with the Commonwealth Public Service, the Community Development Employment Projects (CDEP—a work for the dole scheme established in the 1980s) and the West Australian State Public Service. However, Aboriginal unemployment rates are still twice those of non-Aboriginal people and income levels remain far lower, with Aboriginal people still over-represented in low-paid jobs. **Aileen Marwung Walsh**

See also: Aboriginal child labour; Aboriginal culture and society; Aboriginal legislation; Aboriginal servicemen and servicewomen; Blackbirding; Convict labour; Domestic work; Pastoralism; Pearling; Work, paid; Workers

Further reading: P. Biskup, *Not slaves, not citizens: The Aboriginal problem in Western Australia 1898–1954* (1973); A. Haebich, *For their own good: Aborigines and government in the southwest of Western Australia, 1900–1940* (1992); J. Host and J. Milroy, 'Towards an Aboriginal labour history', in J. Milroy, J. Host and T. Stannage (eds), *Wordal: Studies in WA History*, 22 (2001); S. Hunt, *Spinifex and hessian: Women's lives in North Western Australia 1860–1900* (1986)

Aboriginal land and people, South-West
European settlers tended to assume that Aboriginal people simply wandered over the landscape, and that if the British excised one locality, Aboriginal subsistence could continue over the residue. They saw Australia as *terra nullius*: land not effectively occupied, utilised or 'improved'; land belonging, legally, to nobody; land that British settlers could simply take over unhindered. They could not have been more wrong. Aboriginal families had complex patterns of landholding, which European land grants ignored; and highly organised, although flexible, patterns of land use, which Europeans disrupted.

European 'explorers' met Aboriginal people in groups of a few, tens and hundreds; and encountered varying numbers of huts together, sometimes one only, mainly twos and threes, occasionally up to ten or twelve. Artifact scatters found in archaeological survey show a wide range of extent, density and composition, showing that such variation in group size, function, and composition had persisted over millennia.

Large groups (tens or hundreds of men, women and children) could gather for ceremonial, social and trade purposes at particular vicinities when one or more localised resources became available or abundant: shoals of fish in the shallows of Perth Water; zamia nuts which were gathered, stored and detoxified; swamps providing reed rhizomes as a carbohydrate staple; or hordes of kangaroo which could be driven by fire. These aggregations might include neighbours whose usual forageing grounds lay outside this area. Some resources constituted 'improvements' in the British legal sense, like tidal fish traps (for example, in Oyster Harbour) and riverine fish weirs of stone (for example, on the Kalgan River) or brushwood (on the Serpentine). Some, such as the yam-diggings on the Hutt River, the Greenough and the Swan, represented very considerable labour.

Groups of related families would stay for months at a time, near relatively permanent

water in summer, or around a food source such as yams on an alluvial terrace, harvested in spring; or near reeds in a swamp, lake, or river pool, available into the autumn. After widespread rains, families could scatter into areas that did not have permanent water or resource concentrations (although it is too simplistic to see a regular alternation of coastal plain aggregation and inland scattering). Several women would forage together, taking children. Small groups of men might be away overnight, hunting or on 'men's business'. Young men were very mobile, often instructed in lore and Law by their fathers' or mothers' kin away from the range frequented by their families.

Aboriginal people moved along frequented routes through the 'wild country', the bush, between much-used centres. Europeans soon learned to use these well-marked paths, which took them to water sources, to fords on rivers, and along valleys, which had been maintained open and penetrable by Aboriginal firing.

Although 'nomadic' is an unsuitable term for this combination of focal gatherings with mobile elements, neither is 'settled' appropriate for such flexible patterns. **Sylvia Hallam**

See also: Aboriginal culture and society; Aboriginal firing; Aboriginal population, contact
Further reading: W. C. Ferguson, 'Mokare's domain', in D. J. Mulvaney and J. P. White (eds), *Australians to 1788* (1987); S. J. Hallam, 'Coastal does not equal littoral', *Australian Archaeology*, 25 (1987); S. Le Souef, 'The Aborigines of King George Sound at the time of early European contact: An ethnohistorical study of social organisation and territoriality', in B. K. de Garis, *Portraits of the south west: Aborigines, women and the environment* (1993)

Aboriginal land councils The establishment of Aboriginal land councils in Australia reflects the increasing demand for land rights that began in the 1960s and found full expression in the Aboriginal Tent Embassy set up opposite Parliament House in Canberra in 1972. The factors that led to the creation of land councils varied across Australia. In the Northern Territory the Central and Northern Land Councils were established in 1974 following a recommendation made by Justice Woodward in his interim report on land rights, and in New South Wales the *Aboriginal Land Rights Act* of 1983 provided for the establishment of a land council. The formation of Aboriginal land councils in Western Australia shows two distinct phases: in the late 1970s and 1980s several councils emerged to lobby government on land and heritage issues; and in the 1990s, following the passage of the Commonwealth *Native Title Act 1993* (NTA), other councils were formed to undertake the statutory responsibilities of native title representative bodies (NTRBs).

The Kimberley Land Council (KLC) had its origins in the Noonkanbah dispute. In 1976 the Commonwealth government had, through the Aboriginal Land Fund Commission, purchased the Noonkanbah pastoral lease for the Yungngora Community. When the state government granted permits for oil and mineral exploration on Noonkanbah, the Yungngora people found that neither the *Aboriginal Heritage Act 1972* (WA) nor an appeal to the Mining Warden's Court could help them protect significant sites on their land. The KLC was formed in 1978 to protect the rights and interests of all Aboriginal people in the Kimberley and to fight for their rights in land and waters.

In 1981 the Ngaanyatjarra Council, representing people of the desert region east of Warburton, was formed with support from the Pitjantjatjara Council. The Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara peoples had, in 1976, established the Pitjantjatjara Council to negotiate with government and the mining industry over land use. Their lands fall within three different states but the composition of the Pitjantjatjara Council reflects their

common interests rather than state borders. In 1988 the Ngaanyatjarra people accepted ninety-nine year leases on their lands from the Western Australian government. Other land councils, with similar aims and objectives, also emerged in the 1980s. The Pilbara Aboriginal Land Council was incorporated in 1982, and both the Goldfields Land Council and the Western Desert Land Council were formed in 1984.

Following the passage of the NTA several new land councils were established as NTRBs: the Yamatji Barna Baba Maaja Aboriginal Corporation set up office in 1994 to represent the traditional owners of the Murchison and Gascoyne regions and the Nyoongar Land Council was formed in 1995.

The functions and powers of NTRBs are detailed in the NTA and the Commonwealth government provides some funding so they can perform their statutory functions. The original land councils initially assumed responsibilities as NTRBs but a review undertaken in 2000–01 reduced the number of NTRBs eligible to receive government funding. Some of the original land councils, although still in existence, do not receive funding to function as NTRBs.

The governance structures of these organisations, whether they are the older land councils or newer NTRBs, are similar: a full council is elected by the membership (usually open to Aboriginal people residing in or with an interest in the area covered by the council), which in turn elects an executive or governing committee. The full councils develop policy and provide direction to the executive while the day-to-day work of the council is carried out by administrative and professional staff. **Rita Farrell**

See also: Aboriginal legislation; Kimberley Land Council; Native title; Noonkanbah dispute

Further reading: C. Choo and S. Hollbach (eds), *History and native title: Studies in WA History*, 23 (2003)

Aboriginal languages At the time of first European settlement in Australia there were approximately two hundred distinct Aboriginal languages spoken on the continent. Some sixty of these, many incorporating a number of different named dialects, were spoken in what is now Western Australia. Australian languages are generally understood to be ultimately related to one another, though this has not been demonstrated to any degree of certainty. The languages and the communities speaking them have been in contact for thousands of years, and whether by inheritance from some common ancestor languages or as a result of millennia of contact, the languages of particular regions show a degree of similarity.

As in other parts of the country, the languages of WA have been under immense pressure since the beginnings of European contact and settlement. Many varieties are now known only by name. For others, we have written and some audio recordings but the languages are no longer spoken. Some languages are now remembered only by the oldest generation. Very few of the original languages are in regular community use or are being learned by children as a major vehicle of everyday communication.

There are a number of clear reasons for this and we can recognise three general patterns of language loss. First, the shock of European settlement and the associated social upheaval saw the virtual destruction of whole communities in some regions and with them their languages—for example, the depredations of blackbirding and disease in the early years of the Pilbara and Kimberley settlements can be blamed in part for the rapid decline of languages in some northern coastal areas. Second, the moving of people from their traditional lands into mixed communities created a complex linguistic situation in which some languages achieved a higher status (either as the language of that country or the language of the majority of speakers) and other languages were used less often

and ultimately fell into relative disuse. This mixing of communities has also led to some linguistic convergence, as languages borrow words and constructions from one another. A new language, Kriol, also developed in such circumstances, with speakers making use of a predominantly English vocabulary in a grammatical frame that owes much of its organisation to Aboriginal languages. Kriol is still an important community language in the Kimberley region, and distinctive varieties of Aboriginal English are also widely in use across the state. Third, the increasing demands of a society in which English is the dominant and strongly favoured language encouraged people to shift to English. Within institutions Aboriginal children were often explicitly prevented from using their own languages. In the wider community more subtle pressure was exerted against any non-English language use and this was strongest against Aboriginal languages. When adults cease, little by little, to use Aboriginal languages at home, children have little opportunity to hear the languages and they are not passed from one generation to the next.

Despite the loss of so many languages as a major vehicle of everyday communication, WA remains home to a great linguistic diversity. A brief overview of the location and status of some of the better-known languages follows.

A single language, Nyoongar, was originally spoken in the south-west corner of the state and comprised a number of named dialects associated with different local groups. The distinct Perth dialect, Wadjuk, has mostly been lost and Nyoongar people now use words primarily from the eastern and south-western dialect regions.

The main surviving language of the Murchison and Gascoyne region is Wajarri (often referred to as Yamaji), originally spoken in the Eastern Murchison. The southern and western Pilbara region, from the Gascoyne to Ashburton rivers, formed a cultural bloc with the languages spoken along the Pilbara

Daisy Bates pictured with two Aboriginal people, n.d. Courtesy West Australian *(HIST6413)*

coast. Few speakers of these languages remain. However, a number of languages are still in use in the northern and eastern Pilbara, the most widely known being Yindjibarndi and Nyangumarta. A range of dialects of the Western Desert language are spoken across large parts of WA, South Australia and the Northern Territory, extending from the Great Australian Bight, north to the Kimberley and west to the Hamersley Range and Murchison goldfields. These include Martuwangka, Yulparija, Kukatja, Wangkatha, Ngaanyatjarra.

The greatest diversity of languages is found in the Kimberley, where there were originally more than twenty very different languages, the strongest today being Kija, Jaru and Walmajarri. Linguists generally recognise up to eight different language families in the Kimberley, with the languages of the remaining areas of WA falling into just one (Pama-Nyungan) family, which covers most of the continent. Most Aboriginal people over the age of forty in the Kimberley, Pilbara and Western Desert regions continue to speak one or more traditional languages alongside English.

In recent years, many communities in WA have increased efforts to maintain their languages and in some cases to revive languages that have fallen out of everyday use. An important part of this effort has been the establishment, since the mid 1980s, of Community Language Centres that foster the

collection and documentation of cultural heritage, conduct linguistic research and support communities and schools with professional advice and resource materials. Increasingly, Aboriginal languages are used in written publications and are in use in the broadcast media. The languages are taught in schools: currently LOTE programs in twenty-seven different languages are taught in over 100 government, private or community schools across the state.

Since the days of first contact, Europeans have sought to make records of WA languages. In the early years of the colony there was a good deal of public interest in the languages of the local people and word lists were recorded by many early settlers and explorers (see summaries in Thieberger, 1994). As a result, Nyoongar is the second largest source of borrowings from an Aboriginal language into English (after the Sydney language, Dharuk). General surveys of vocabulary were organised by Curr and later Daisy Bates. However, this early public interest was replaced by a lack of concern and often open hostility towards Aboriginal languages in the first half of the twentieth century. With a few exceptions the detailed study and documentation of Aboriginal languages has only begun in earnest in the past fifty years. What we know today of Western Australia's languages is due to those Aboriginal people who have, against all the odds, persevered in the maintenance of their community languages, and to those with whom they have worked to make a lasting record of this unique heritage. **Alan Dench**

See also: Languages of migration and settlement; Laves linguistic collection
Further reading: Australian Institute of Aboriginal and Torres Strait Islander Studies, www.aiatsis.gov.au, (2007); B. J. Blake, *Australian Aboriginal languages: A general introduction* (1991); N. Thieberger and W. McGregor (eds), *Macquarie Aboriginal words: A dictionary of words from Australian Aboriginal and Torres Strait Islander languages* (1994)

Aboriginal Legal Service The Aboriginal Legal Service of WA Inc. (ALSWA) is a community-controlled organisation that provides legal services to Aboriginal and Torres Strait Islander peoples throughout the metropolitan, regional and remote areas of Western Australia. The Justice Committee of the New Era Aboriginal Fellowship, a non-government organisation established in 1969, set up the first voluntary legal advisory service for Aboriginal people in Perth in the early 1970s. The service initially operated out of rooms at the Aboriginal Advancement Council building in Perth. Aboriginal community leaders worked with members of the legal profession to address the problem that legal aid services for Aboriginal people in WA fell way short of demand. In 1969, forty per cent of those sent to prison in WA were Aboriginal, yet Aboriginal people comprised only two and a half per cent of the state's total population. At that time, the overwhelming majority of Aboriginal people involved in the criminal justice system had no legal representation at all.

The New Era Aboriginal Fellowship and those in the Aboriginal community recognised that the legal service needed to be an Aboriginal agency, run by and for Aboriginal people. After the election of the Whitlam government in 1972, funding for Aboriginal and community legal aid services around the country was substantially increased, and this enabled the Aboriginal Legal Service in Western Australia to open its first office in 1973 with two full-time solicitors, three Aboriginal field officers and a secretary. By the time ALSWA was incorporated in 1975, it had expanded with offices in Port Hedland, Narrogin and Kalgoorlie. Further offices were established the following year in Carnarvon, Kununurra, Derby and Laverton. In 2007 there were sixteen regional offices throughout WA in addition to the head office in Perth. ALSWA is governed by an elected executive committee that, after subsequent amendments to the original constitution of

the organisation, comprises two Aboriginal representatives from each of eight regions across the state (corresponding to the former ATSIC regions).

One of ALSWA's central objectives has been to redress the social disadvantage of Aboriginal people through legal representation, advocacy and education. The Aboriginal Legal Service was instrumental in the establishment of the Laverton Royal Commission in 1975 after thirty Aboriginal men were arrested at Skull Creek. This was the first major inquiry in WA into allegations against the police, and the Commission found that the men were arrested without justification. ALSWA was at the forefront of the campaign against Aboriginal deaths in custody, a campaign that culminated in the establishment of the Royal Commission in 1987. Prior to the Human Rights and Equal Opportunity Commission (HREOC) inquiry into the stolen generations in 1995, ALSWA conducted research into forced removal of children from their families in this state. Over 600 Aboriginal people recounted their personal histories for the report *Telling Our Story*, the basis for ALSWA's 1996 submission to the HREOC Inquiry, published as *After the Removal*.

Through the struggle for social justice for Aboriginal people, ALSWA has made a substantial contribution to law reform in WA, has played an important role in the Aboriginal land rights movement and has been an advocate for Aboriginal civil rights. Aboriginal governance structures have been developed within ALSWA in response to demands for effective community control over the legal service. ALSWA has also assisted Aboriginal agencies across the state to incorporate and to implement their own constitutions and governance structures. **Fiona Skyring**

See also: Aboriginal legislation; Aboriginal prisoners; Deaths in custody; Imprisonment; Legal aid; Native title; Royal Commissions and Inquiries, Indigenous; Skull Creek Laverton incident; Stolen generations

Further reading: Q. Beresford, *Rob Riley: An Aboriginal leader's quest for justice* (2006); C. Choo and S. Hollbach (eds), *History and native title: Studies in WA History*, 23 (2003)

Aboriginal legislation Legislation relating to Aboriginal people in Western Australia was initially a piecemeal affair. It was not until the *Aborigines Protection Act 1886* that the first comprehensive piece of legislation relating to Aboriginal people was enacted. Under this Act the definition of an Aborigine was extended to include 'half-castes' and the children of 'half-castes'; and an Aborigines Protection Board was established to distribute food, clothing, shelter and medical care to Aborigines living in the colony. The Board also regulated the employment of Aboriginal people through a contract system that required each employer to provide a written contract of employment for each Aboriginal worker subject to various conditions, and which had to be authorised by the Board. The Board had limited success in fulfilling its stated duties, however, and reports of ill treatment of Aboriginal people by local settlers continued to surface.

When in 1890 WA finally achieved self-government from the British, it was on condition that the Aborigines Protection Board remained the governing authority over all matters relating to Aboriginal people. Under Section 70 of the *Constitution Act 1889* a minimum of £5,000 or one per cent of the colony's gross revenue, whichever was the greater amount, was to be allocated to the Board for Aboriginal purposes, with provisions made for automatic future increases in the Board's funding. When the colonial government eventually obtained control over Aboriginal affairs in 1897, however, it promptly abolished the Board and the provisions in the *Constitution* Act relating to its funding and set up a separate sub-department, the Aborigines Department, headed by a Chief Protector. Although a travelling inspector was later appointed, virtually all the fieldwork for

this department was carried out by the local police. This dual role of making police officers both protector and prosecutor of Aboriginal people continued over the years and had devastating consequences for Aboriginal people, including souring Aboriginal and police relations for generations.

Revisions to the *Dog Act* in 1903 also had a dramatic effect on Aboriginal people in the state, particularly the South-West. Under its new provisions, Aboriginal men could only own one unregistered dog each. The new Act also gave the local police the power to destroy any unregistered dogs found in excess of the legal limit, and this was ruthlessly enforced. As Aboriginal people were prohibited from owning guns, dogs were their main means of hunting and the loss of their dogs had a devastating effect on their ability to support themselves through hunting.

The situation for Aboriginal people in the state continued to deteriorate to such an extent that a Royal Commission, headed by Dr W. E. Roth, was called to investigate. The Roth Royal Commission was highly critical of the treatment meted out to Aboriginal people in the North. The Commission found that most of the cruelty and abuses Aboriginal people suffered were largely due to the heavy-handed policing methods used to detain Aboriginal prisoners and the ineffectual administration by the Aborigines Department.

Although the Commission refuted many of the allegations of cruelty against pastoralists, it was critical of how the existing employment system was being manipulated by them for their own benefit. The Commission found that over 90 per cent of the Aboriginal workers on pastoral stations were without formal contracts of employment, enabling pastoralists to avoid their statutory obligations to provide rations and medical treatment for their employees. Even where contracts existed, these provisions were often ignored.

The government response to the Roth Royal Commission was to pass the *Aborigines Act 1905*. Under the new Act the Aborigines

Department became a full department with its funding increased and the Chief Protector coming under the authority of the minister rather than the premier. The new Act was described as being for the protection and care of the Aboriginal race of WA. Under its provisions, however, 'protection' was to be achieved by a rigorous policy of segregation and isolation from the wider community. Town sites and municipalities were declared prohibited areas and it became an offence for Aboriginal people to enter them without authorisation. In addition, Aboriginal people could be removed to designated Aboriginal reserves and detained there indefinitely. Those who refused to comply committed an offence. The Act also prohibited the entry of unauthorised non-Aboriginal persons into such reserves.

The Chief Protector could now exercise the right of control over any property belonging to an Aboriginal person, with or without their consent. The Act also prohibited marriages between Aboriginal women and non-Aboriginal men without the permission of the Chief Protector. Sexual contact or 'cohabitation' between non-Aboriginal men and Aboriginal women was made an offence. Supplying of alcohol to, and consumption of alcohol by, Aboriginal people continued to be an offence. The employment of Aboriginal workers under contract as provided for in the 1886 Act was abolished and employers were henceforth required to obtain written approval from the Chief Protector or Magistrate before employing an Aboriginal person. However, the Act failed to adopt Roth's recommendation for the payment of cash wages by pastoralists to Aboriginal workers. Aboriginal workers on pastoral stations eventually received a standard cash wage in 1950, but it was not until 1969 with the Federal Pastoral Industry Award that Aboriginal workers became entitled to 'equal wages for equal work'.

Under the 1905 Act, the Chief Protector also became the legal guardian of all Aboriginal children until the age of sixteen. In

order to facilitate the removal of Aboriginal children to missions, this provision was amended in 1911. Under the amendments, the Chief Protector became the legal guardian of all Aboriginal children to the exclusion of the rights of Aboriginal children of mixed descent.

The 1905 Act did allow for some Aboriginal people to be exempted from its provisions, as well as those of the *Wine, Beer & Spirits Act 1902* (WA), which prohibited the supply of alcohol to Aborigines. Under Section 63 of the 1905 Act, the minister could grant an exemption certificate to those Aborigines who in his opinion ought not be subject to the Act. However, the minister was also given the power to revoke this exemption at any time. As the minister's opinion was almost invariably that of the local protector's, few Aboriginal people were considered suitable to receive an exemption certificate.

In 1936, in response to the Moseley Royal Commission's review of government administration and policies in respect to Aboriginal people, the *Aborigines Act 1905* was again amended and renamed the *Native Administration Act 1905–1936*; the Aborigines Department was renamed the Department of Native Affairs; and the Chief Protector was replaced by a Commissioner of Native Affairs. Like its predecessor, the new Act was described as being for the 'further protection and care' of Aboriginal people. However, under the new Act, Aborigines were now classified as 'natives' and the new Act was implemented as if it applied to any person of Aboriginal descent.

One of the Moseley Royal Commission's recommendations introduced under the Act was the establishment of Courts of Native Affairs to adjudicate over offences committed by one native against another. Where the offence arose out of a dispute under tribal custom, this could be considered a mitigating factor in sentencing. However, the Native Courts were eventually disbanded in 1954, partly due to difficulties in ascertaining 'tribal law'.

The constant disputes between employers and the Department of Aborigines and the Department of Health as to who was responsible for the costs of medical treatment for Aboriginal workers also resulted in the creation of a Natives Medical Fund, referred to by the Act as the 'Sickness and Accident Fund'. The Fund was administered by the Department of Native Affairs and was available to all Aboriginal people. Under the new Act, this Fund was financed by a levy placed on all employers of Aboriginal permit workers, which then absolved them of any liability for compensation under the *Worker's Compensation Act (WA) 1912–1934*. By 1952, however, the Fund had become insolvent due to increases in the costs of medical care outstripping the amounts being levied on employers.

Despite the introduction of these new measures, the 1936 Act still had the effect of placing even greater personal restrictions on Aboriginal people in WA than they had experienced previously. Aboriginal men as well as women were henceforth required to obtain the Commissioner's consent before they could marry. The new Act conferred on the Commissioner the power to refuse permission to marry on the basis that one or both parties had a hereditary or communicable disease. Furthermore, under the 1936 Act, Aboriginal children continued to be deemed wards of the state with age of guardianship being extended from sixteen to twenty-one years, 'not withstanding that the child has a parent or other relative living'. The new Act continued to prohibit Aboriginal people from drinking alcohol and now also made it an offence for Aboriginal people to 'loiter' in or near licensed premises.

While the prevalence of venereal disease among the Aboriginal population had been a constant problem since the colony's inception, the increases in the incidence of leprosy within the Aboriginal community, particularly in the North, caused even greater concern among the wider community.

Mounting public pressure led to the inclusion of provisions within the 1936 Act, giving the Commissioner the power to compel the medical examination of any Aboriginal person. Nevertheless, the spread of leprosy continued to increase, and in 1941 the Act was amended to prohibit the movement of any Aboriginal people south of the 20th parallel. This restriction soon became known as the 'leper line'. This restriction was eventually lifted in 1963.

The 1936 Act continued to provide for exemption certificates on the same terms as the previous 1905 Act; consequently, those who were successful in obtaining an exemption could at least avoid the harsh provisions of the 1936 Act. Even so, certificate holders were still subject to the discriminatory provisions contained in a number of other statutes. In an attempt to overcome this situation, state parliament subsequently enacted the *Native Citizenship Rights Act 1944*. Under the 1944 Act, Aboriginal people could apply for a Certificate of Citizenship which in theory gave them full citizenship rights and therefore freed them from the discriminatory provisions contained in other Acts, including the *Native Administration Act 1936*. The process of obtaining a Certificate was particularly demeaning, however, with applicants being forced to appear in court and undergo a humiliating public examination of their personal lives. Applicants had to provide two references in support of their application and demonstrate that they were of 'good character', were not suffering from any communicable disease, such as syphilis or leprosy, and that for the previous two years at least they had dissolved all association with other Aboriginal natives.

This grant of citizenship was qualified by the fact that it could be revoked at any time if the holder was found to be habitually drunk or had contravened any of the other requirements for citizenship. Aboriginal people were therefore placed in the position of having to choose to be either a citizen or an Aboriginal, but not both. Like exemption certificates, citizenship certificates were also called 'dog tags' by Aboriginal people. Curiously, the system of exemption certificates provided for under the 1936 Act remained intact and was not repealed.

During the 1950s a shift in official Aboriginal policy to one of 'assimilation' rather than isolation and segregation led to changes in the legislation. In 1954 the *Native Administration Act 1905–1947* was repealed and replaced by the *Native Welfare Act*, and the Department of Native Affairs became the Department of Native Welfare, under a Commissioner of Native Welfare. As the new name indicates, the new Act was intended as a welfare measure. Under its authority, the system of work permits, Courts of Native Affairs and the Natives Medical Fund were abolished. The Act made no mention of citizenship or exemption certificates. Cohabitation and sexual relations between Aborigines and whites remained an offence, as did supplying Aboriginal people with liquor. The Commissioner of Native Welfare also remained the legal guardian of all Aboriginal children under the age of twenty-one whose parents were not holders of a citizenship certificate.

In the years following the enactment of the *Native Welfare Act 1954*, the laws and regulations affecting Aboriginal people in WA were liberalised, albeit slowly. The removal of most of the remaining restrictions placed on Aboriginal people was effected by the enactment of amendments to the *Native Welfare Act* in 1963. Despite these reforms, however, the provisions of the *Licensing Act 1911–1963* (WA), specifically prohibiting the supply to and consumption of alcohol by Aboriginal people in proclaimed areas, remained intact. Over time and area by area, the enforcement of this provision ceased, and in 1971 the last two areas—the Eastern Goldfields and the Kimberley—were finally de-proclaimed.

The following year the *Aboriginal Affairs Planning Authority Act 1972* was enacted,

which no longer defined Aboriginal people according to categories based on their degree of Aboriginal blood. Instead, under the new Act, a 'person of Aboriginal descent' was defined according to three criteria: as being someone who is living in WAand 'who was wholly or partly descended from the original inhabitants of Australia, who claims to be an Aboriginal and who is accepted as such'. The Department of Native Welfare was abolished, to be replaced by the Aboriginal Affairs Planning Authority, with some of its functions taken over by the newly created Department of Community Welfare. Rather than having a single department with overriding responsibilities, housing, health, education, employment and welfare programs were channelled to their respective mainstream departments, such as the State Housing Commission and the Public Health Department. The *Aboriginal Heritage Act 1972* was also enacted, giving the WA Museum, through the Department of Aboriginal Sites, the responsibility to protect places and objects of significance to Aboriginal people.

Under these new Acts the policy of assimilation began to be superseded by policies of integration, self-management and self-determination. Greater Aboriginal independence began to emerge: the Aboriginal Medical Service was established in Perth in 1973, the Aboriginal Legal Service in 1975. Limited self-determination was also conferred by the state government with the enactment of the *Aboriginal Communities Act 1979*, with the aim of enabling certain Aboriginal communities to institute and monitor their own by-laws. However, the government still retained the power to declare that the Act no longer applied to a particular community.

Under the *Public Sector Management Act (WA) 1994* an Aboriginal Affairs Department was established to administer these three pieces of legislation: the *Aboriginal Affairs Planning Authority Act 1972*, the *Aboriginal Heritage Act 1972* and the *Aboriginal Communities Act 1979*. The Department's name

was subsequently changed in July 2001 to the Department of Indigenous Affairs, to 'better reflect the inclusiveness of both Aboriginal and Torres Strait Islander peoples within the scope of the state government's portfolio'.

After 1972 the issue of land rights and the importance of granting Aboriginal people secure tenure in order to meet social, cultural and economic needs also began to gain momentum over the next two decades. In 1992 the legal context of Aboriginal interests in land was radically changed when the High Court handed down its decision in the case of *Mabo and others v. the State of Queensland (No. 2)*, recognising that the concept of native title applied in Australia. The effect of the judgement was that Aboriginal people would be deemed to be the holders of native title if they could demonstrate that they had maintained a continuous connection to their land and retained their traditional customs and practices in respect to that land and that the Crown had not extinguished their entitlements to the land, such as through the grant of freehold title to a separate third party.

One of the implications of the Mabo decision was that the Crown became obliged to compensate (or to cause other parties to compensate) any native title holders whose rights were extinguished or impaired by the grant of other forms of title since the enactment of the Commonwealth *Racial Discrimination Act 1975*. Furthermore, the Mabo decision also raised questions about the validity of titles that had been issued at any time after the 1975 Act came into effect and where native title holders had not been fairly compensated for the loss or impairment of their rights.

In December 1993 the Western Australian government responded to these issues by passing the *Land (Titles and Traditional Usage) Act* and establishing the Office of Traditional Land Use to implement the legislation. Under this Act compensation was

to be provided where native title had been extinguished since the enactment of the Commonwealth *Racial Discrimination Act 1975*. However, the Act sought to confirm the validity of titles granted by the state of WA since the enactment of the 1975 Act by a blanket extinguishment of native title and instead replacing it with certain statutory rights of 'traditional usage'. This was in stark contrast to the Commonwealth government's *Native Title Act 1993*, which, rather than extinguishing native title, provided for its statutory recognition.

The *Land (Titles and Traditional Usage) Act* was short lived, however, with the legislation being repealed in November 1995, following a High Court ruling that declared the Act invalid. WA subsequently passed the *Titles Validation Act 1995*, which brought the state into line with the processes adopted by the Commonwealth and the other states for managing the issues raised by native title.

The recognition of native title also marked the beginning of legal recognition of Indigenous rights for Aboriginal people in Australia. Indigenous rights are the collective rights belonging to Aboriginal peoples, as the original inhabitants of this land, and as such these rights cannot be possessed by non-Indigenous people. Whether the Indigenous rights of Aboriginal people in WA to self-determination in respect to their land and culture will be further expanded is yet to be seen.

On 19 September 2006, the Nyoongar people's claim to native title over Perth and its surrounds was recognised by the Federal Court. The state government's response has been to dispute this decision by lodging an appeal. **Tamara Hunter**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal labour; Aboriginal protectors; Bungarun; Citizenship, Aboriginal; Courts of Native Affairs; Native title; Royal Commissions and Inquiries, Indigenous; Section 70

Aboriginal music in Western Australia was irrevocably affected by the 1905 *Aborigines Act* and the subsequent systematic dispossession of Aboriginal people. The constraints on resources and movement that the Act created limited the capacity of Aboriginal people to develop their musical culture in reaction to the imposed cultural environment. In remote communities, traditional music was maintained in the ritual and ceremonial life of the people, albeit sometimes secretly, alongside the hymns and liturgical music of the Christian missions. In Perth, from the 1940s through to the 1960s, dances and performances were held at the Aboriginal Advancement Council and the Coolbaroo Club, but it was primarily through radio that Aboriginal people came to espouse country music. This music, with its celebration of narrative, formed the ideal expression of Aboriginal experience and personal life history. When the referendum of 1967 took power over Aboriginal affairs away from the state, Aboriginal people began to find the freedom, confidence and resources to develop their own voice. This found form in a flowering of country music performance and composition most clearly represented at the state's annual Gnangara National Aboriginal Country Music Festival (1975–85), where many singers and instrumentalists (including Lois Olney, Sandy Atkins, Lynette Riley, Alan Barker, Ron Mills, The Atkins Sisters, Josie Boyle and Ernie Bridge) displayed standards equal to any.

Throughout the 1970s the Black Power movement in the United States struck a sympathetic chord with Aboriginal people nationally. The political underpinnings of much of the rock music of this time, combined with the appearance of cheaper, more accessible musical instruments, inspired a proliferation of Aboriginal bands in the early 1980s. Bands such as Modern Tribe, Pipeline, Section 54, No Shame, Barefoot in the Park, Scrap Metal and singer/songwriter Rick Lovegrove represented an expanded confidence and political awareness among Aboriginal

musicians. Then in the late 1980s Western Australian Aboriginal people took the matter of access to musical expertise and performance opportunities into their own hands with the creation of the Aboriginal corporations Abmusic in Perth (incorporated 1986) and Goolarri Media Enterprises (fully owned by the Broome Aboriginal Media Association), which was launched in Broome in 1991. These corporations came to draw on mainstream expertise to provide the professional and media skills necessary for Aboriginal musicians to compete on even terms with the mainstream. Both organisations have trained many of the current wave of successful Aboriginal practitioners and are now Registered Training Organisations delivering the Music Industry Training Package.

Although most of the activity in the 1980s took place in Perth, often at events staged by Abmusic, this newfound confidence also found clear expression in Broome, which contributed many unique Indigenous voices including Jimmy Chi, the composer of the apogee of the energy of the 1980s, the musical *Bran Nue Dae* (1990). Although based on the classic tragedy of the stolen child, *Bran Nue Dae* vigorously portrayed Aboriginal culture with music of humour, wit and breadth of style, presenting a positive affirmation of a culture brimming with self-belief.

The 1990s produced a plethora of music of high technical and artistic quality. In Perth, I-Land, Donna and the Dimes, No Shame and Pipeline had local commercial success in the mainstream 'pub scene', previously and notoriously unavailable to Aboriginal musicians. In Broome, The Pigram Brothers and Mark Bin Bakar (lately as his alter ego, Mary G) achieved a national and, to some degree, international profile. Since 2000, this energetic output, now drawing from an eclectic range of genres, has expanded across WA. Computer-based performance and recording is widely embraced, the work of Alice Haines and Gina Williams being exemplary. **Bruce Devenish**

See also: Aboriginal culture and society; Aboriginal legislation; Coolbaroo League; Missions; Popular music; Rock music
Further reading: C. L. Davis, *Every song tells a story: the politics of contemporary Aboriginal music* (1991); A. M. Moyle, *Australian Aboriginal music: A bibliography and discography* (1964)

Aboriginal oral history is critical in maintaining and communicating Aboriginal knowledge, wisdom and life experiences for future generations, and in strengthening the identity and power of Indigenous communities. Aboriginal nations within Australia represent the world's oldest living culture; they are numbered in the hundreds and are linguistically diverse with oral traditions thousands of years in the making. Oral history is a complex cultural process that, as John Borrows notes, is 'conveyed through interwoven layers of culture that entwine to sustain national memories over the lifetime of many generations.' Oral traditions are holistic, embrace Indigenous knowledge systems specific to particular groups, communities and individuals, and contain traditional beliefs, values, perspectives and practices. Elders play a vital role in the transmission of oral traditions and as teachers they are not only keepers of the past, but also guides to the future. The passing on of their wisdom and knowledge is the key to the cultural survival of the generations to come. Aboriginal knowledge systems privilege the telling of stories. Within the context of individual communities, oral traditions are often accompanied by a defined set of rules that address who can tell the stories, who the stories can be told to, to what depth the stories can be told and on which occasions. Such stories hold great cultural meaning and are usually supported by related cultural practices within communities.

Prior to invasion in 1788 all Indigenous nations in Australia lived by the knowledge and understandings that were passed down

from one generation to the next through story, dance, ceremony, art and song. This knowledge related to every area of life and included an intricate knowing and management of the environment. The power of oral traditions to connect past, present and future has become even more significant in the present day, as stories of family life, hardship and survival offer a powerful collective voice that provides access to a deeper, more humane view of history. In addition, since the 1992 Mabo decision there are now legal implications as oral evidence can be crucial in establishing land claims under the *Native Title Act* and can include both contemporary and past accounts of a community's connection to the land, land use and cultural practice. Consequently, Aboriginal oral history accounts are often challenged as not as reliable or accurate as the written record, an accusation which also arises frequently in discussions of incidents such as massacres.

Edited oral history transcripts often form the basis for highly successful publications, which provide a valuable community resource that can also assist in addressing challenging issues of social justice. Examples of such works in the WA context include: Alice Nannup's *When the Pelican laughed* (1992); *Out of the Desert*: *Stories from the Walmajarri Exodus* (edited by E. Richards, J. Hudson and P. Lowe, 2002); and Mordi Munro's story, *Emerarra: A Man of Merarra* (1996). *Ngarla Songs* (2003), the result of a ten-year recording and translation project, is a poetic, wise and witty bilingual collection of over sixty songs sung by the Ngarla people from the Pilbara. *Moola Bulla: in the Shadow of the Mountain* (1996) is a vibrant oral account of a government-run station in the Kimberley, which once operated as a place of punishment and internment for Aboriginal people. **Sally Morgan**

See also: Aboriginal culture and society; Aboriginal resistance, South-West; Aboriginal writing; Book publishing; Frontier violence, Kimberley; Magabala Books; Massacres; *My Place*; Oral History Association

Further reading: H. Achoo et al. and Kimberley Language Resource Centre, *Moola Bulla: In the shadow of the mountain* (1996); J. Borrows, 'Listening for a change: the courts and oral traditions', *Osgoode Hall Law journal*, 39 (2001); A. Brown and B. Geytenbeek, *Ngarla songs* (2003); H. Bulugardie; E. Richards, J. Hudson and P. Lowe (eds), *Out of the desert: Stories from the Walmajarri exodus* (2002); M. Munro, edited by M. Jebb, *Emerarra: A man of Merarra* (1996); A. Nannup, L. Marsh and S. Kinnane, *When the pelican laughed* (1992)

Aboriginal population, contact Aboriginal population numbers and density at contact have provoked considerable controversy. In 1930, A. R. Radcliffe-Brown estimated 250,000 to 300,000 for the continent as a whole, based on a few immediately post-contact accounts. This figure was the basis for most later estimates, but has come under critical scrutiny. Even the earliest counts were made after the effects of diseases introduced by Macassan trepang fishers and by the colonists had become evident. Smallpox had afflicted eastern Australia before 1800, but in the west there is only one recorded mention of Aborigines with pitted skin before the 1860s. Noel Butlin (1983) calculated that smallpox, measles, influenza, and venereal disease (depleting female fertility) could have cut Aboriginal numbers to a third ahead of the first counts, even ignoring the effects of displacement, concealment, resource depletion and violent deaths. John Mulvaney and others advocated tripling Radcliffe-Brown's continental estimate, to give an estimated population at contact of three-quarters of a million people, implying average densities throughout the continent of around ten people per 100 square kilometres.

The earliest western counts of the Aboriginal population (by Francis Armstrong, Rosendo Salvado and others) were made when

demography in the South-West had already been seriously affected. The locations most used by Aboriginal people were alluvial riverine lands, and dunes around lakes and swamps. Europeans had appropriated these lands with most staple plant resources; blocked access to water, fish and fowl; reduced game; launched punitive forays; and introduced diseases to which local populations had no resistance.

At any one time the number of people per unit area using the resource-rich coastal plain would be significantly greater than numbers traversing the relatively little used forested hinterlands, but individuals from the group would move between these zones. Density estimates must therefore be assessed across the whole region through which each family moved, and have no meaning for only part of a range.

Population densities are here expressed per one hundred square kilometres of total range. Le Souef used Collet Barker's 1830 journal to calculate a density of about four around King George Sound. Radcliffe-Brown based his South-West estimate loosely on Stirling's Perth figure of 750 from a block 40 miles each way, implying a density of twenty or so. Around the Swan, Armstrong's defective 1837 census can be reinterpreted in the light of Salvado's data on family structure to give a minimum density of ten people per hundred square kilometres of coastal plain plus forested hinterland. Salvado's careful 1858 listings for the dependencies of New Norcia yield minimal density figures ranging from nine around Toodyay to only three or four northward, after almost three decades of adverse impact.

Salvado's detailed data document a low proportion (averaging 40 per cent) of females, which would have restricted population; and archaeological data also suggest a late slowing of the steep rise in numbers over the last few thousand pre-contact years.

A total population estimate for WA must take into account population densities that were extremely low in deserts, low through much jarrah and karri, intermediate from the Wheatbelt to Pilbara, and more intensive in coastal plains and the North. One may well conclude with Radcliffe-Brown: 'to form an accurate estimate of the size of the original population…is a task beset with very great difficulties.' A contact population of somewhere between 100,000 and 200,000 in Western Australia seems likely, perhaps even as much as a quarter of a million.

Numbers dropped dramatically to perhaps one-tenth of the original population over the next century, but recovered partially in recent decades. However, variations in definition and the extent and efficiency of counting procedures have changed over time.

Smith (2002) pertinently reminds us that 60 *billion* or more people may have walked this land during tens of millennia before the first Europeans set foot on Australian soil. They leave us a heritage all Australians should value. **Sylvia Hallam**

See also: Aboriginal culture and society; Aboriginal health; Aboriginal land and people, South-West; Aboriginal resistance, South-West; Frontier violence, Kimberley; Massacres

Further reading: N. G. Butlin, *Our original aggression, Aboriginal populations of south-eastern Australia, 1788–1850* (1983); S. J. Hallam, 'Aboriginal demography in south-western Australia: census lists', in N. Green and L. Tilbrook, *Aborigines of New Norcia 1845–1914: The bicentennial dictionary of Western Australians, pre-1829–1888*, 7 (1997); S. Le Souef, 'The Aborigines of King George Sound at the time of early European contact: an ethnohistorical study of social organisation and territoriality', in B. K. de Garis, *Portraits of the south west: Aborigines, women and the environment* (1993); D. J. Mulvaney and J. P. White (eds), *Australians to 1788*, 1987; G. Briscoe and L. Smith (eds), 'The Aboriginal population revisited: 70,000 years to the present', *Aboriginal History Monograph 10* (2002)

Aboriginal prisoners In Nyoongar culture Cantonment Hill in Fremantle is the watching place of Dwerte, an ancestral dingo. Another watching place lies further into town at a hill known to colonists as Arthur's Head. It is the site of the Round House Prison, the first public building in Western Australia. The Round House was not a place of watching spirits, but a place of watching men. Aboriginal people from all over the colony passed through the prison in chains on their way to the prison for Aboriginal men on Wadjemup (Rottnest Island).

Historically the imprisonment of Aboriginal people has gone hand in hand with the process of colonisation. Prisons, along with other institutions of forced confinement such as reserves, missions and lock hospitals, have served to incarcerate and institutionalise Aboriginal people for over a hundred years. Prisons were used as a means to combat and undermine Aboriginal resistance, both in areas where the frontier was expanding and in the territories already under colonial occupation. Imprisonment was a terrifying punishment for Aboriginal people as there was nothing remotely paralleling it in Aboriginal society.

Rottnest Island Prison was established in 1838 only nine years after the Swan River colony had been founded in 1829, and served as a place of both punishment and exclusion of Aboriginal people. One of the stated intentions behind the prison had been that Aboriginal prisoners would be 'gradually trained in the habits of civilized life', but by contrast, in 1875 the *Herald* wrote that Wadjemup was called the 'Black Man's Grave'. Indeed, it remains the largest site of Aboriginal deaths in custody in WA with an estimated 370 men having died on the island.

As the Swan River colony expanded, new prisons dotted the frontiers and linked up with the prison on Wadjemup. In the south-west of the colony, prisons were established in Guildford (1841), Albany (1850), and York,

Bunbury and Busselton (1879). Typically these prisons contained 'native cells' used to segregate Aboriginal people from other prisoners, which functioned as a prison within a prison. During the 1870s colonists began to push into the North-West and four northern prisons were opened: Roebourne (1881), Derby (1887), Wyndham (1888) and Carnarvon (1890). Together these prisons formed a colony-wide network of incarceration that ran from Wyndham in the far North, east to Coolgardie and Kalgoorlie, down to bottom tip at Albany and far west to the central Aboriginal prison on Rottnest Island.

The second biggest prison housing Aboriginal people was Roebourne. Resistance to colonisation in the North-West was fierce and the prison was often overcrowded, with Aboriginal prisoners facing worse conditions than non-Aboriginal inmates. At Roebourne, Aboriginal prisoners were chained at night to a large iron ring set into the wall; similarly, in the 'native cell' in Albany prison a metal bar ran along the bottom of the back wall for the same purpose.

Long-term concerns about treatment of Aboriginal prisoners on Rottnest Island persisted and were highlighted in the local press. One of the superintendents, Henry Vincent, was investigated three times for alleged mistreatment of Aboriginal prisoners and finally a Royal Commission inquiry in 1899 concurred that conditions at Rottnest were unacceptable. Though it ceased to be used as a native prison soon after, conditions for Aboriginal prisoners elsewhere remained unsatisfactory. Aboriginal prisoners were still subjected to corporal punishment and forced to wear chains long after these measures had been abolished for other prisoners. Imprisonment served to break connections which many Aboriginal people had with their heritage, their land and their communities, leaving them dispossessed and in a seemingly unbreakable cycle of crime and incarceration.

In the course of the twentieth century, prison conditions in metropolitan WA have

improved, but conditions in regional prisons have remained inferior, with their problems closely related to the problem of Indigenous imprisonment. In 2001 the Inspector of Custodial Services in WA named the four regional prisons of Broome, Eastern Goldfields, Roebourne and Greenough as 'Aboriginal prisons', as at any given time their population was 75 per cent or more Aboriginal. The Inspector also drew attention to structural racism in the way Aboriginal prisoners were treated and managed. The death in 1983 of a young Aboriginal man, John Pat, in Roebourne lock-up, was a catalyst for the 1987 Royal Commission into Aboriginal Deaths in Custody, which showed that the death rate for Aboriginal prisoners in WA was higher than in any other state in the country. The Royal Commission also examined a number of Aboriginal deaths in Fremantle Prison. Fremantle Prison retains a legacy of Aboriginal imprisonment in its art murals.

Currently, WA continues to imprison Aboriginal people at a higher rate than any other state and the situation is deteriorating. In 2005 the Aboriginal population accounted for only three per cent of the general population while representing over forty per cent of the prison population. **Blaze Kwaymullina and Alexander Hay**

See also: Aboriginal culture and society; Deaths in custody; Fremantle Prison; Imprisonment; Prisoner art; Rottnest Island Native Prison; Royal Commissions and Inquiries, Indigenous
Further reading: N. Green and S. Moon, *Far from home: Aboriginal prisoners of Rottnest Island 1838–1931: The bicentennial dictionary of Western Australians, pre-1829–1888*, 10 (1997); J. E. Thomas and A. Stewart, *Imprisonment in Western Australia: Evolution, theory and practice* (1978)

Aboriginal protectors There is a long history of forced colonisation, assimilation and integration of Aboriginal people in WA, in the name of protection. Colonial and post-colonial governments established various offices for dealing with Aboriginal people: Superintendent of Natives (1832); Protector of Aborigines (1839); Guardian of Aborigines (1849); Guardian of Aborigines and Protector of Settlers (1857); the Aborigines Protection Board (1887); Chief Protector of Aborigines (1897–1936); Commissioner of Native Affairs (1936–54) and Commissioner of Native Welfare (1954–72). Regional Aboriginal protectors, in conjunction with the police, were appointed to assist with monitoring Aborigines.

The Superintendents of Natives were Captain Ellis (1833–34) and Francis Armstrong (1834–38). Two Protectors, Peter Barrow and Charles Symmons, were appointed from England in 1839 and arrived in 1840. Barrow left WA in 1841. Symmons continued as Protector until 1849 when his title was changed to Guardian of the Aborigines and Protector of Settlers. The Chief Protectors of Aborigines were Henry Prinsep (1897–1907), Charles Gale (1907–15) and Auber Neville (1915–36). In 1936 the title changed to Commissioner and four men held this title: Neville (1936–40), Francis Bray (1940–46), Stanley Middleton (1948–62) and Frank Gare (1962–72).

When WA became a state in 1901, one of its first parliamentary debates centred on the Aboriginal problem, and in due course the state's *Aborigines Act 1905* was passed whereby Aboriginal people became wards of state. With the passing of the state *Native Administration Act 1905–1936 (WA)* in 1936, the position of Protector was retitled Commissioner of Native Affairs. The Act was amended in 1947 as the *Native Administration Act 1905–1947* and in 1954 was replaced by the *Native Welfare Act* and the office holder became the Commissioner of Native Welfare. While Neville was technically the last person to hold the title Chief Protector, 'protectors' of Aborigines included

the appointed Commissioners. The office remained until 1972.

The Chief Protector of Aborigines, with the government's assistance, utilised regional Aboriginal protectors, mainly magistrates, police and missionaries, to monitor Aboriginal people in their areas. They travelled on push bike, horseback and later by car to Aboriginal reserves and camps to oversee their charges and ensure Aborigines lived according to the rules and regulations laid out in the *Aborigines Act 1905*. As well as reporting on the general state of Aboriginal communities, they also informed the Chief Protector of Aborigines of the presence of fair-skinned and half-caste Aboriginal children. Though families hid their children when the Aboriginal protectors or the police appeared, many were caught. These children were then removed and placed in homes, missions or settlements: they were members of the stolen generations. Government records, Aboriginal oral histories and autobiographies such as Glenys Ward's *Wandering Girl* (1988) and Doris Pilkington Garimara's *Follow the Rabbit-Proof Fence* (1996), as well as *Bringing Them Home: the Report of the National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from their Families* (1995–97), document these occurrences.

Of all the state government protectors and administrators, A. O. Neville was the most feared by Aboriginal people, who believed he held the power of life and death over them and their families. However, Aboriginal protectors and the police had dual roles in Aboriginal affairs. They enforced Aboriginal subjugation by strictly adhering to the policies of the *Aborigines Act 1905*; and at the same time they doled out government rations. They were undoubtedly instrumental in further dissolution of Aboriginal peoples' lives and, although WA has long discarded the formal roles of protectors for Aboriginals, Indigenous people still maintain a wariness and inherent distrust of government officials and the police to the present day. **Rosemary van den Berg**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal legislation; Missions; Stolen generations

Further reading: N. Green, *Broken spears: Aborigines and Europeans in the southwest of Australia* (1984); S. Kinnane, *Shadow lines* (2003); R. van den Berg, *Nyoongar people of Australia: Perspectives on racism and multiculturalism* (2002)

Aboriginal resistance, South-West Although conflict between European sealers and Aboriginal people had occurred in the Minang Nyungar land around the King George Sound area in 1826, more serious trouble began in the Swan and Murray River areas in 1830. However, when the Swan River colony was established in 1829, the local Nyungar believed that the British intruders were the reincarnated spirits of their dead or 'djangas'. This was a time of peaceful co-existence. At first both cultures were accommodating, the colonisers freely giving Nyungar flour and other commodities; while the Nyungar helped the whites find fresh water and bush foods to supplement their dwindling supplies. However, Aboriginal resistance to the take-over of their lands around the Swan, Canning and the Murray River areas grew as more immigrants arrived in Nyungar land. The Nyungar were refused flour and they were forbidden to 'trespass' on their traditional hunting and fishing lands.

Midgegooroo, Munday, Weeip and Yellagonga were the recognised Elders and spokesmen for their respective territories around the Derbal Yerrigan or Swan River. Yagan, as Midgegooroo's son and a well-respected Nyungar, was a warrior of renown and leadership. Calyute, from the fierce Murray River or Bindjareb people, was also a force to be reckoned with, as Thomas Peel and other white intruders discovered around the Mandurah area. Other warriors included Domjum, Donmera, Heegan and Miago, all of whom caused fear among the early settlers,

not only along the Swan River and the Mandurah–Murray region, but around York as well.

Chippers Leap, a well-known landmark along the Great Eastern Highway in the Darling escarpment, stands testimony to Aboriginal resistance during the early 1830s. John Chipper and a boy named Beacham were chased by several Nyungar and speared on the road near Greenmount Hill. The lad was killed immediately and Chipper, with spears in his body and arm, jumped for his life from the large rocks that became known as Chippers Leap.

From 1830 onwards, Nyungars were shot at and flogged in public for raiding flour mills and vegetable gardens. Much of the Aboriginal resistance was based on the Nyungar revenge system of 'payback'. The Elders and Yagan became worried that their hunting and fishing traditions were being denied them, which resulted in raids and killings among Nyungar and colonisers. A large group, including Midgegooroo, Yagan and Munday, ambushed two settlers in reprisal for the death of Yagan's brother, Domjum, in April 1833. Midgegooroo was captured and executed by firing squad in May 1833. Yagan, now proclaimed an outlaw, retaliated by killing others as 'payback'. He was caught and sent to Carnac Island, but escaped. A reward of £30 was placed on his head and he was hunted by troopers and settlers. In July 1833 he was killed by William and James Keats, two youths whom Yagan had befriended. While William Keats was speared to death, James escaped. Yagan's head and scarred skin were sent to Britain for exhibition. In the late twentieth century his head was returned to Perth: it still awaits burial.

In 1834 a culmination of raids and counter-raids led to the massacre of Pinjarra and, thereafter, Nyungar resistance throughout the South-West petered out. The Nyungar became a colonised people, subjugated and subservient to the intruding colonisers. **Rosemary van den Berg**

See also: Aboriginal culture and society; Frontier violence, Kimberley; Massacre, Pinjarra
Further reading: M. Durack, *Yagan of the Bibbulmun* (1976); N. Green, *Broken spears: Aborigines and Europeans in the southwest of Australia* (1984); N. Green (ed.), *Nyungar–the people: Aboriginal customs in the southwest of Australia* (1979)

Aboriginal servicemen and servicewomen Despite the background of racial attitudes with which they had to contend, Aboriginal servicemen and women have played a role in the nation's defence history disproportionate to the size of the population of Indigenous Australians. Excluded from citizenship under the 1903 *Defence Act*, Aborigines and Torres Strait Islanders were also effectively exempted, as non-Europeans, from compulsory enlistment into active service. The strong racial thread that ran through the defence debate in the beginning of the century did not lapse with the advent of the First World War. When Aboriginal men attempted to join the first and second AIF, many were rejected, though those with lighter skin colour or complexion were recruited. With no records of race kept, the only indication in military records that a soldier was Aboriginal, or of Aboriginal descent, was the description of complexion or their family name.

Western Australia has seen many Aboriginal men and women serve their country in overseas action. Corporal Augustus 'Peg' Farmer is recognised as the first Indigenous soldier awarded a Military Medal for conspicuous bravery on the battlefront. Tragically, he was killed in action and is buried at the Somme in France. His younger brother Larry was also killed in action in Europe. Two other brothers Kenneth and Lewis returned from action at the end of the war. Richard (Dick) Farmer was the youngest of the Farmer brothers from Katanning to see action in the Second World War. Other Western Australian Aboriginal

soldiers include Lewis and Harold Collard (First World War) and, during the Second World War, Jack Poland, Arthur Harris and Norman Harris (RAAF). Harold Hill (RAN) and Arthur Morrison were both prisoners of the Japanese during the war. West Australians Ken Colbung, Len Ogilvie and Gavin Mallard served in Korea and Phillip Prosser and Paul Hansen in Vietnam. Caroline Harris, a Nyoongar woman who joined the Australian Army in 1954, is renowned as one of the first Indigenous women to officially serve her country.

Many Aboriginal enlistees saw the war as a possible method of achieving full 'citizenship' and better treatment after the war. The general consensus among Indigenous soldiers was that the war presented opportunities for

Corporal Augustus 'Peg' Farmer MM, 16th Battalion, enlisted in the AIF in Bridgetown in 1915. He was posted to France and took part in the battles of Bullecourt, Lagnicourt, Ypres and Merricourt, where he won a medal for conspicuous bravery, but was killed in action. Courtesy Glen Stasiuk.

the formation of close bonds between black and white servicemen, with little evidence of racism on the war-front. However, Aboriginal veterans expecting a new order on their return from the front line were disappointed. Aboriginal servicemen and women were again relegated to inferior social and cultural status within civilian life. And as Director of Aboriginal Affairs, Terry Garwood, wrote in 1993, 'whatever the fate of the ANZAC legend, Aboriginal people were given no place in it'.

Though there is little in the Australian War Memorial or in other public or private museums regarding the service of the Indigenous soldier, various monuments have been erected throughout Australia to honour the 'black digger'. The first recognised memorial for Aboriginal servicemen and women erected in WA was in the South-west town of Collie in 2000. The following year, another significant memorial was erected in Kings Park to honour Indigenous soldiers; while other monuments have been erected at Fremantle, East Victoria Park and Carnarvon. The most recent Western Australian event to celebrate the Indigenous war effort and sacrifice of the 'black digger' was the 2001 Anzac parade in Perth, when Aboriginal war veterans realised a dream and officially led the returned veterans' Anzac parade. **Glen Stasiuk**

See also: Aboriginal culture and society; Aboriginal legislation; Anzac Day; Army; Citizenship, Aboriginal; War memorials
Further reading: R. A. Hall, *The Black Diggers: Aborigines and Torres Strait Islanders in the Second World War* (1997); A. Jackomos and D. Fowell, *Forgotten heroes: Aborigines at war from the Somme to Vietnam,* (1993); G. Stasiuk, *The forgotten* (video recording 2002)

Aboriginal theatre In its broadest context, Aboriginal theatre in Western Australia is derived from ancient Indigenous culture

and tradition. Performance and storytelling are a necessary and critical part of cultural survival, therefore it can be legitimately argued that the Aboriginal theatre industry is a 60,000-year-old art form. Evidence of this ancient form of theatre can be found in the Kundu Masks of the Nyangumarta people from the Pilbara. Masks, representations of both animals and spirits, were used in public performance around the campfire at night. At the conclusion of each performance the masks were abandoned on the ceremonial ground. The largest collection of these masks can now be found at the South Australian Museum.

Contemporary Aboriginal theatre in WA grew out of a time of political and social struggle. The first recorded community performances were at the Coolbaroo Club (1946–c.1965), which was Perth's only Aboriginal-run club. Productions were of a largely cabaret form providing entertainment for the local Aboriginal community and its supporters amid the apartheid regime of the day. It was also an opportunity to forge links with international Black American icons such as Paul Robeson and Nat King Cole, both visitors to the club.

In the 1960s and 1970s the Black civil rights movement was in full swing and gave birth to Black political theatre. While Kevin Gilbert's *The Cherry Pickers* (1971) and the Nimrod Street Theatre production *Basically Black* (1972) are acknowledged nationally as the first of the black political theatre at this time, in WA the social-historical theatre movement was taking shape. The trilogy of plays by WA playwright Jack Davis (1917–2000)—*The Dreamers* (1973), *Kullark* (1978) and *No Sugar* (1985)—were the catalyst for the genre that has dominated the Aboriginal theatre industry.

In the 1970s Aboriginal theatre was commonly performed at the then Wellington Street based Aboriginal Advancement Council. By the 1980s, recognition for Aboriginal playwrights and actors had grown and interest came in the form of mainstream audiences and theatre companies who commenced a cycle of producing Aboriginal works. In 1990 Jimmy Chi redefined the musical theatre genre with his production *Bran Nue Dae*, Australia's first Aboriginal musical, and again with *Corrugation Road* (1996). Produced by Black Swan Theatre, both broke box office records of the day.

In 1992 Yirra Yaakin Nyoongar Theatre was created and set about defining an Aboriginal-determined pathway for authentic Aboriginal theatre in WA. A decade later Yirra Yaakin is recognised as Australia's leading Aboriginal theatre company and has produced a body of works by era-leading WA Aboriginal artists such as Sally Morgan, Lynette Narkle, Geoffrey Narkle, Dallas Winmar, Ningali Lawford, Mitch Torres and David Milroy. Yirra Yaakin also initiated the development of Australia's first national Aboriginal theatre alliance and in 2002 the BLAKSTAGEalliance was created.

In 2003 David Milroy's play *Windmill Baby* made history as the first Aboriginal play to win the nationally prestigious Patrick White Award. It has subsequently received the WA Equity Award in 2005 for best new play. The birth of the Club Savage movement also took place in 2005, an Indigenous art for Indigenous art's sake expression that is presently recording its history with the creation of *Jila's Bush Meeting*, the first production from Club Savage artists.

WA has produced a wealth of Aboriginal actors who can be placed in three 'schools'. The 'Jack Davis School' launched the acting careers of artists such as Ernie Dingo, Lynette Narkle, John Moore and Kelton Pell, while '*Bran Nue Dae*' produced Ningali Lawford, Stephen 'Baamba' Albert and Rohanna Angus. The 'Yirra Yaakin School' has produced Derek Nannup, Heath Bergersen, Kyle Morrison, Melodie Reynolds, Irma Woods, Cher Williams and Kylie Farmer.

In addition to this, WA has also produced some notable Aboriginal theatre artists, including playwright Archie Weller, actors

Tasma Walton, Della Morrison, Lanchoo Davy, Isaac Drandage, Trevor Jamieson, Dennis Simmons, Mark Bin Bakar (aka Mary G] and acclaimed lighting designer Mark Howett.
Sam Cook

See also: Aboriginal culture and society; Aboriginal music; Aboriginal writing; Coolbaroo League; Yirra Yaakin
Further reading: M. Casey, *Creating frames: Contemporary Indigenous theatre 1967–1990* (2004)

Aboriginal trackers Trackers were Aboriginal men whose skills at tracking and bush craft were utilised by the Western Australian police. From the earliest years of European settlement trackers performed an indispensable role in mounted police patrols in outlying areas, most notably in the harsh North-West and Kimberley pastoral districts. Known as Native Assistants, they were assigned to police as armed personal servants, though they were neither legally bound to them nor paid members of the police force. Rather, the police officer received an allowance for their upkeep. At times brought over from Queensland or hand-picked from prison, they were known as police 'boys'. During the periods of conflict in the Kimberley district in the 1890s they assisted in police patrols in suppressing Aboriginal resistance to colonisation. Patrols were often for months at a time, with the trackers' main roles being to lead and navigate, to track Aboriginal cattle-killers, find lost individuals, communicate with Aboriginal groups as interpreters, and tend to equipment, horses and prisoners. In the early twentieth century their role changed and trackers were utilised as in-house police authorities in Aboriginal institutions such as Moore River Native Settlement. They would supervise inmates, track down runaways and often dispense corporal punishment. By 1975 trackers became known as Police Aides.
Chris Owen

See also: Aboriginal culture and society; Aboriginal labour; Frontier violence, Kimberley; Native police; Police and policing
Further reading: J. Bohemia and B. McGregor, *Nyibayarri: Kimberley tracker* (1995); S. Maushart, *Sort of a place like home: Remembering the Moore River Native Settlement* (2003); C. Owen and C. Choo, 'Deafening silences: Understanding frontier relations and the discourse of police files through the Kimberley police records', in C. Choo and S. Hollbach (eds), *History and native title Studies in WA History*, 23 (2003)

Aboriginal women were considered to be full partners in Aboriginal society prior to the colonisation of Western Australia by the British. Aboriginal women had separate domains to Aboriginal men but, rather than being subordinate, these were autonomous and of equal value. Aboriginal women's Law was strong and their lives were culturally and spiritually rich.

Following colonisation, however, Aboriginal people were dispossessed of their land and their culture and kinship networks were decimated. Aboriginal women were subjected to abduction and rape, and venereal diseases were common. Aboriginal women were also confronted by the dual prejudices of a sexist as well as racist European society, which automatically assumed that Aboriginal women were subordinate to Aboriginal men. As such, Aboriginal women were regarded as being inferior and relegated to the lowest levels of society.

By 1901, WA had enacted more individual pieces of legislation pertaining to Aboriginal people than any other state in Australia, the culmination of which was the *Aborigines Act 1905*. Passed ostensibly for the protection of Aboriginal people, the 1905 Act ultimately had the effect of controlling every aspect of Aboriginal people's lives. The Act placed all Aborigines in WA under the control of the Aborigines

Department and made them subject to penal sanctions, separate from the rest of society.

The new Act also set out to address community concern about miscegenation, referred to as the 'half-caste' problem. The rapidly increasing numbers of children of mixed descent caused great alarm among the white community, who viewed such children as 'inheriting the worst traits of both races'. The prevailing racist attitudes of the time meant that the white population saw these children as a potential 'social menace' and were fearful of being overrun by the burgeoning 'half-caste' race.

In an attempt to halt further miscegenation, the 1905 Act sought to control Aboriginal women's sexuality. The Act specifically prohibited marriages between Aboriginal women and non-Aboriginal men without the written permission of the Chief Protector. It also became an offence under the Act for non-Aboriginal men to cohabit with Aboriginal women. However, it was not uncommon for administrators to turn a blind eye to white men's sexual encounters with Aboriginal women and it was rare for offenders to be prosecuted.

The high incidence of sexual abuse of Aboriginal women and girls in the state's North also caused Aboriginal women to be targeted under the Act for special attention, by prohibiting them from being employed within the pearling industry, and at night they could not go near any creek or inlet used by boats of pearlers. These provisions were due in part to the racist belief that the high incidence of venereal disease afflicting the Aboriginal population in the North originated from the Asian pearlers.

As well as controlling their right to marry and dictating where they could live and work, the legislature also denied Aboriginal women their right to raise their children. Under the 1905 Act the Chief Protector was made the legal guardian of all mixed-race children under the age of sixteen years. Consequently the rights of Aboriginal women as mothers were ignored, with their children taken from them and placed into institutions or reserves.

In 1911, amendments to the Act further entrenched governmental control over Aboriginal children by declaring that the Chief Protector's guardianship was 'to the exclusion of the rights of Aboriginal mothers of illegitimate half-caste children'. In 1936 the state's guardianship of all Aboriginal children was again extended, up until the age of twenty-one years, 'regardless of whether or not they had a parent living'. The effect of these changes meant that it was not necessary for authorities to prove that an Aboriginal child was being neglected in any way before making an order for the child to be taken to a reserve. Any Aboriginal person who attempted to defy such an order committed an offence under the Act. It soon became standard practice to forcibly remove Aboriginal children, and many Aboriginal mothers were gaoled as a result of trying to stop their children being taken from them.

Concern within the wider community about the spread of diseases, in particular leprosy, also meant that laws were introduced forcing Aboriginal people, particularly Aboriginal women, to undergo compulsory medical examinations and any subsequent treatment, or face up to six months' imprisonment.

It was not until the 1950s that some of the controls over Aboriginal people began to be lifted. In the wake of the Second World War, and the atrocities that occurred, there was growing national and international concern for human rights. This focused a spotlight on the plight of Aboriginal people and led to the enactment of the *Native Welfare Act (WA) 1905–1954*, which removed many of the legislative restrictions over Aboriginal people. This Act came about as a result of a shift in official Aboriginal policy to one of 'assimilation' rather than isolation and segregation. Under 'assimilation', Aboriginal people were to adopt an 'Australian' way of life and so, in theory, enjoy the same rights and benefits as other Australians. The price to be paid for this

was that Aboriginal people had to abandon their cultural identity. Changes to the law, however, did not automatically translate to a change in the public's racist attitudes towards Aboriginal people. Under 'assimilation' the removal of Aboriginal children continued and was justified on the basis that it would give them a 'better start in life'.

During the 1970s the policy of assimilation was superseded by policies of integration, self-management and self-determination. In WA this meant the removal of the last remaining legislative restrictions over Aboriginal people, with the enactment of the *Aboriginal Planning Authority Act (WA) 1972*, and became the first real opportunity for Aboriginal people in WA to overcome the social, educational and economic disadvantages they had previously faced within white society.

In 1986 Sue Gordon became the first Aboriginal person to head a state government department, when she was appointed Commissioner for Aboriginal Planning. She has since gone on to become a Magistrate in the Children's Court, has obtained a law degree, and in 2002 she led the WA government's inquiry in 'The Response by Government Agencies to Complaints of Family Violence and Child Abuse in Aboriginal Communities' (Gordon Inquiry). In 2004 Sue Gordon was also appointed as Chairperson of the Commonwealth government's newly created National Indigenous Council.

Aboriginal author and artist Sally Morgan is another Aboriginal achiever of international renown. She first came to prominence in 1988 after she wrote her groundbreaking book *My Place*, detailing her family's history. In 1991 Sandra Eades graduated in medicine at The University of Western Australia as one of the first Aboriginal doctors in Australia, and in 2004 became the first Aboriginal medical doctor to receive a Doctorate of Philosophy. Carol Martin also made history when she became the first Aboriginal woman elected to any Australian parliament, when she was

chosen as the member for the Kimberley in 2000. However, for all the success stories, there are just as many, if not more, Aboriginal women and families for whom the wounds from past injustices have left a lasting legacy of dysfunction and abuse to haunt them and their communities, as testified by the findings of the Gordon Inquiry in 2002.

Within Aboriginal society today, the reality is that many of the Aboriginal men are often absent because of violence towards their partners; or caught up in a cycle of alcohol or drug dependence; or incarcerated for long periods of time; or have taken their lives through suicide. Consequently, it is the Aboriginal women, particularly the grandmothers, who are responsible for the daily rearing of children and for caring for the aged or invalid. As such, Aboriginal women are the cornerstones of their communities upon whom the stability and future of Aboriginal people depends. **Tamara Hunter**

See also: Aboriginal culture and society; Aboriginal health; Aboriginal legislation; Aboriginal protectors; Female suffrage; Missions; Stolen generations

Further reading: J. Chesterman and B. Galligan, *Citizens without rights: Aborigines and Australian citizenship* (1997); H. Goodall and J. Huggins, 'Aboriginal women are everywhere: Contemporary struggles', in K. Saunders and R. Evans (eds), *Gender relations in Australia: Domination and negotiation* (1992); M. L. Stewart, *Ngalangangpum Jarrakpu Purrurn—Mother and child: The women of Warmun* (1999)

Aboriginal writing is new. But Aboriginal people are not. Stories have always shaped their lives. Though the arrival of European people disrupted traditional ways, today Aboriginal writers are speaking for those who have been silenced, writing back into history those who have been written out of history, setting the record straight by

preserving memories and asking for justice and understanding.

Jack Davis was the first Aboriginal writer to make an impact on the wider community. Davis published four volumes of poetry; *The First Born* (1970), *Jagardoo* (1978), *John Pat and Other Poems* (1988) and *Black Life* (1992). *John Pat and Other Poems* (1988) inspired the Royal Commission into Aboriginal Deaths in Custody. Davis also wrote a number of widely acclaimed plays: including *Kullark* (*Home* in Nyoongah language) (1982) and *The Dreamers* (1982), *No Sugar* (1986) and *Barungin* (*Smell the Wind* in Nyoongah language) (1988).

Davis's success, which gave a new range and vitality to the local theatrical scene, opened the way for other Aboriginal playwrights like Richard Walley, whose *Coordah* (1989) tackled 'the gap between black, white and brindled and do-gooder, mestizo and missionary', and Eddie Bennell, whose *My Spiritual Dreaming* was commissioned for the 1992 Festival of Perth. Broome writer and musician Jimmy Chi and Kuckles achieved spectacular success with the musicals *Bran Nue Dae* (1990) and *Corrugation Road* (1993), both of which subsequently toured nationally and internationally. The establishment of the Aboriginal theatre company Yirra Yaakin in 1992 has developed and produced many successful Aboriginal playwrights.

Poetry has always been integral to Aboriginal culture and continues to be so. But in Aboriginal communities most of it is still in language. In 1974, however, C. G. von Brandenstein and A. P. Thomas translated a collection of these poems from the Pilbara, called *Tararu*. The publication of *Ngarla Songs* (2003) by Ngarla Elder Alexander (Sandy) Brown (with linguist Bruce Geytenbeek) continues this rich 'poetic' tradition, with a unique bilingual collection of sixty-eight Yirraru (anecdotal songs) from Ngarla people about everyday life in the Pilbara. While most of the poetry written in English is scattered in anthologies or remains unpublished, two

leading Nyoongar poets have emerged in print. Graeme Dixon's first volume, *Holocaust Island* (1990), won the inaugural David Unaipon Award for Aboriginal and Torres Strait Islander Writers. It speaks powerfully and angrily about Aboriginal poverty, imprisonment and deaths in custody. The volume is dedicated to them: 'two hundred years/ of BLACK desolation' and to the loss of a rich and subtle culture. But it also includes a number of love poems and celebrations of sporting heroes. Dixon's second collection of poems *Holocaust Revisited—Killing Time* (2003) includes a personal memoir.

Alf Taylor's two volumes of poetry, *Singer Songwriter* (1992) and *Winds* (1994), as well as a collection of short stories, *Long Time Now: Stories of the Dreamtime, the Here and Now* (2001), deal with the serious side of Aboriginal life, the deep hurts and injustices, but love and optimism are there too.

In recent years there has been an increasing volume of autobiographical writing. Following Aboriginal oral history and storytelling traditions they give voice to the reality of Aboriginal people's lives and experience including the stolen generations, document Aboriginal history, resistance and political struggles, and give insight into Aboriginal understanding of family, country, environment and spirituality. The stories are characterised by hardship, courage, endurance, humility, wit and humour. Sally Morgan's *My Place* (1987) is probably the best known of these memoirs, a national and international bestseller that introduced Aboriginal histories to a much wider popular readership. *My Place* gives a picture of the other side of the pastoral legend, the displacement and exploitation of Aboriginal people told through the stories of Sally's grandmother Daisy Corunna, Daisy's brother Arthur and her daughter Gladys (Sally's mother). Morgan's *Wanamurraganya* (1989) tells the story of her grandfather Jack McPhee. Glenys Ward's *Wandering Girl* (1987) tells of growing up on a mission and then life as a servant; while Alice Nannup

writes of her memories of life as the daughter of an Aboriginal mother and a white father on a Pilbara station in *When the Pelican Laughed* (1992). Doris Pilkington Garimara has published two memoirs: *Caprice: A Stockman's Daughter* (1991) and *Follow The Rabbit-Proof Fence* (1996), the story of three children who escape from Moore River and walk over a thousand kilometres back home. It was later made into an internationally acclaimed film. Nyamal lawman Peter Coppin's book *Kangushot* (1999) includes his role in the 1946 pastoral workers strike; and Monty Walgar, a Yamatji man, recounts his personal struggles in *Jinangga: On My Tracks* (1999). Magdalene Williams, a Nyulnyul woman, tells of her life in Beagle Bay in *Ngay Janijirr Ngank: This Is My Word* (1999) with illustrations by Pat Torres; and Rosemary van den Berg pays tribute to her father Tom Corbett's experiences in Moore River in *No Options, No Choice* (2003).

There have also been collections of personal stories like *Aboriginal Histories from the Pilbara: Karijini Mirli Mirli* (1997), edited by Noel Oliver. Non-Aboriginal academic Stephen Muecke has given voice to Nyigina elder Paddy Roe, born on the Roebuck Plains near Broome, in *Gularabulu* (1983) and *Reading the Country* (1984). *Moola Bulla In the Shadow of the Mountain* (Kimberley Language Resource Centre) is a collection of stories told in Kija, Jaru and Kriol with English translations; while *Out of the Desert: Stories from the Walmajarri Exodus* (2002) is the story of the exodus from the Great Sandy Desert told by Walmajarri storytellers Honey Bulugardie, John Charles, Mona Chuguna, David Downs, Mary-Anne Downs, Olive Knight, Limerick Malyapuka, Nora Nguwayir, Ivy Nixon, Jimmy Pike, Pompey Siddon, Peter Skipper, Emily Sullivan, Amy Vanbee, Adeline Wanangarra, Honeychild Budgie Yankarr and Boxer Yankarr.

Kim Scott's first novel, *True Country* (1993), set in a remote community in the Kimberley, tells the story of a young teacher

from the South who discovers his Aboriginal descent there. *Benang* (1999), joint winner of the Miles Franklin Literary Award and the Western Australian Premier's Award, spans several generations of a Nyoongar family who attempt to survive by assimilating into the white community but are still 'only tenuously citizens of their own country...filled with pride and shame...barely hanging on to their freedom'. The novel is also notable for its sense of place and for the way it captures the characteristic vocabulary and rhythms of Aboriginal English, as if it were allowing the dead to speak in their own voices.

Aboriginal writing in WA has made a notable contribution not only to the Aboriginal community but also to the literature of the state and our understanding of our histories. **Veronica Brady**

See also: Aboriginal culture and society; Aboriginal oral history; Aboriginal theatre; Life writing; Literary awards and prizes; Magabala Books; *My Place*; Poetry; Theatre and drama; Yirra Yaakin

Further reading: J. J. Healy, *Literature and the Aborigine in Australia, 1770–1975* (1978); M. Narogin, *Indigenous literature of Australia—Milli milli wangka* (1997); A. Shoemaker, *Black words, white page: Aboriginal literature 1929–1988* (2004)

Abortion is defined as 'the procuring of premature delivery so as to destroy offspring'. Under the English law of 1861, adopted in the Swan River colony, abortion was illegal, and this law was incorporated into the Western Australian Criminal Code in 1902 (No. 14 of 1902) in clauses 199, 200, 201 and 257. Under Clause 257 (after amendments to other aspects of the Code in 1913, Clause 259), medically induced abortion was permitted as a last resort to save a woman's life, but otherwise such procedures were labelled criminal abortion. This law remained unchanged until 1998.

Research conducted in Australia and overseas for different periods suggests that abortion has always been practised widely. Wealthy women have usually been able to find relatively safe and confidential medical treatment and medical professionals have seldom appeared before the courts. However, some poor women administered abortifacients to themselves, such as ingesting a toxic substance, douching with various household substances, and the inserting of an instrument as far as the uterus in an attempt to cause sufficient irritation to dislodge the foetus. Both poor pregnant women, who were mainly young and unmarried, and 'backyard abortionists' were more likely to be charged with criminal abortion until at least the 1960s. Abortion has been used by older married women to limit family size.

The Abortion Law Reform (later Repeal) Association (ALRA) formed a Western Australian branch in 1969, with prominent members of Perth's medical and legal professions among its members. Other organisations, including the Women's Electoral Lobby and Women's Liberation, campaigned to change the law. Although these attempts were unsuccessful, prosecution for criminal abortion gradually waned, and financial subsidy for the procedure became available through the universal health system in 1973. The Abortion Information Service, operated by ALRA from 1974 to 1987, provided telephone information about abortion clinics. By the 1990s, referrals to clinics were common from the Family Planning Association of Western Australia, Women's Health Care House, and other medical practitioners.

The Catholic Church-backed Right to Life, and Protestant groups in the Christian Life Movement (Living Alternatives) frequently campaigned against abortion in the state elections, locked in a battle with activists from the women's movement. In 1974 these groups of hardline anti-abortionists formed the Coalition for the Defence of Human Life, and opened two clinics, Pregnancy Help (Catholic) in 1976, and Pregnancy Problem House (Protestant) in 1986, both of which assist women to maintain their pregnancies.

In the 1980s the election of several pro-choice Labor women into parliament, and the increase in the number of women in the public service, brought renewed attempts to convince some politicians of the need for legislative change to legalise abortion. The Health Department of Western Australia set up the Women's Health Working Party in 1986, which unsuccessfully recommended the repeal of the abortion law. The same recommendation was made, again unsuccessfully, by the Western Australian Review of Obstetric, Neonatal and Gynaecological Services in 1990.

Abortion returned to the centre of an intense political, legal, parliamentary and community debate when two doctors of an inner-suburban abortion clinic were arrested in February 1998. The subsequent campaigns led to the successful introduction of a private member's Bill by a Labor MLC, Cheryl Davenport, the *Acts Amendment (Abortion) Act 15/1998*. Sections 200 and 201 of the Criminal Code were repealed and the amended Sections 199 and 259 reworded. They require that abortion must be justified on the grounds of physical or mental health of the woman; that it must be carried out by a member of the medical profession; that no health institution is bound to perform an abortion; and that special conditions must be met before an abortion can be performed if the pregnancy has reached twenty weeks. Importantly, no woman is held responsible or criminally liable for undergoing an abortion. The Criminal Code abortion sections, as amended in 1998, remain in 2006. The Western Australian abortion rate fell from 19.7 per 1,000 women in 1999, to 18.2 per 1,000 women in 2005. **Jasmina Brankovich**

See also: Contraception and family planning; Feminist movements; Women's Electoral Lobby; Women's health organisations

Further reading: S. Grayston, 'Changing attitudes and services: abortion in Western Australia, 1970–1990', and S. Murray, 'Breaking the rules: abortion in Western Australia, 1920–1950', in P. Hetherington and P. Maddern (eds), *Sexuality and gender in history: Selected essays* (1993); T. White and L. Davis, *Stories from our lives: Women's experiences of abortion* (1993)

Acclimatisation, the process of introducing useful animals to foreign climes, was shaped by economic, scientific and aesthetic imperatives. The acclimatisation and breeding of exotic animals for agricultural industries and for release into the wild was practised by acclimatisation societies throughout the nineteenth-century empires of Britain and France. The Acclimatisation Society of Victoria, founded in 1857, was the first such society in Australia and acted as a model for other societies throughout the colonies.

Members at the first meeting of the Western Australian Acclimatisation Board (thereafter, Committee) in July 1896 included J. W. Hackett as president, Mr Justice Stone, George Throssell and Charles Lee Steere. The committee's early imports reflected their interest in hunting as well as their desire to 'improve' the settler experience of the landscape, with the first animals brought from New South Wales including hare, deer and white swans. Also of note was the introduction of the laughing kookaburra, which went some way to fulfil the objective, common to all of the Australian societies, to spread native animal populations to parts of the country where they were not inhabitant. It was thought that the laughing kookaburra would assist agriculturists by consuming snakes and insects. A trout hatchery was established at Whitby Falls in 1896 and there were attempts to breed Murray Cod, Victorian black fish, silver eels and English tench, which were released in rivers throughout the South-West region of

Western Australia. Queen Victoria made a gift of red and fallow deer in 1899 for breeding and release. In 1900, pheasants, guinea fowl, peacocks and doves were also distributed throughout the South-West region. The starling, which was distributed across the eastern colonies by acclimatisation society members from the mid nineteenth century, became extremely populous in those places. However, the Bureau of Agriculture had already prohibited the species when the Western Australian committee came to consider its introduction.

The most successful of the committee's undertakings was the founding in 1897 of the Perth Zoological Gardens, made possible largely as a result of the wealth and population boom associated with the gold rushes. The zoo provided facilities to trial new, potentially lucrative animals, plants and birds, including ostriches and angora goats. Ostrich farming was touted as a possible successful and profitable industry, as it had proven to be in other parts of the world. Angora goats were brought from South Australia and were perceived to be of great value to particular parts of the colony because of their ability to resist drought and poison plants. Ernest Le Souef, the first director of Perth Zoo, displayed various species of exotic grasses for the consideration of farmers as pasture crops. He also planted and propagated a wide variety of palms within the Gardens.

Restrictions on the sale of native animals and the well-founded anxieties of conservationists and the Agricultural Bureau regarding the harm caused by introduced species contributed to the demise of the committee's objectives by the 1930s. The Fish and Game Society renewed attempts to acclimatise Californian quail and trout in the mid 1930s with the establishment of hatcheries in Pemberton, and in 1960 the Western Australian Avicultural Society sought to introduce rare exotic birds to Rottnest Island. In line with legislation to protect native species at state and Commonwealth levels, acclimatisation

was increasingly viewed as an outdated and harmful practice; however, the title of the Perth Zoo's managing body, the Acclimatisation Committee, was not changed until 1969 when it became the Zoological Gardens Board. **Natalie Lloyd**

See also: Aquaculture; Exotic fauna; Exotic plants and weeds; Fishing, recreational; Pests; Zoological gardens

Further reading: C. F. H. Jenkins, *The Noah's Ark syndrome: One hundred years of acclimatization and zoo development in Australia* (1977); J. L. Long, *Introduced birds and mammals in Western Australia* (1988)

Acting The *Perth Gazette* of 13 July 1839 recorded the Swan River colony's first theatrical performance. *Love à la Militaire*, a musical farce, was performed by a group of citizens before an invited audience. Two months later, an amateur performance of *Charles II or The Merry Monarch* created such a storm that there were no further performances until mid 1842, and women did not appear again on the stage until 1869, despite there having been fifty amateur performances presented in the preceding twenty years.

Learning on the job a declamatory, sensational style of delivery suited to melodrama and farce was the actor's training, for both amateur and visiting professional performers, until the arrival of Lionel Logue, c. 1907, as the first recognised teacher of acting in Western Australia. His students gave regular demonstrations and performances at His Majesty's Theatre.

Two former students, Betty Durlacher and Anita Fitzgerald, continued Logue's practice when he left for Harley Street, London, c. 1924, and distinguished himself as a speech therapist. Fitzgerald, known to later generations as the speech and drama teacher, and examiner Anita Le Tessier, became Western Australia's first theatrical entrepreneurs. In 1930, Fitzgerald established the

Shakespeare Club with twelve of her senior speech and drama students, and subsequently produced many plays with them as a teaching director.

Like Fitzgerald, Lilly P. Kavanagh was a Loreto Convent graduate who became an influential teacher of stagecraft. Unlike Fitzgerald, Kavanagh never made a name as an actor. As a teacher and producer, however, she furthered the cause and career of many professional actors, Faith Clayton among them. In October 1937 her production of the Spanish romance *Cradle Song*, for the Pleiades Club, won the inaugural *West Australian* prize of £20 for Best Production in the first WA Drama Festival, organised by the Perth Repertory Club. It was the first statewide drama festival held in Australia and, with some twenty affiliated groups, indicated a strong repertory movement.

The Repertory Club, founded in December 1919, was incorporated in 1922, and closed in 1956. It played a key training role for more than thirty years in all aspects of theatre, and balanced the production of Australian plays with works from a mainly British repertoire. The short-lived Workers' Art Guild (1936–40) was a centre of radical practice, and offered more naturalistic actor training by Keith George, guided by the motto 'art is a weapon in the people's struggle', suited to the plays of Irwin Shaw, Clifford Odets and Ernst Toller. Alan Cuthbertson was a distinguished graduate of this school.

From 1939 to 1949, Edward (Bill) and Ida Beeby's Patch Theatre offered 'organised drama instruction' that was considered unique in Australia. Graduates to the professional stage included Margaret Ford and Nita Pannell. A speech teacher, Charles Gordon, established the Goldfields Players in Kalgoorlie in 1931; his work was reactivated after the Second World War by Seddon and Frieda Vincent through the Goldfields Repertory Club (1946). Frieda Vincent was trained by Anita Fitzgerald. The director Raymond Omodei gained his early training with the Vincents.

Colleen Clifford settled in Perth in 1954 after a distinguished acting career on the stage and in television, and opened the Theatre Guild and Drama School. Voice production and musical theatre were her strengths, and she directed six 'pro-am' musicals in Perth for the Edgley family before moving to Sydney in 1969.

Many student teachers acquired acting skills through the teaching of Ron Bell (Graylands Teachers' College, 1950s) and Mary Moir (Claremont Teachers' College, 1950s to 1970s), and took their training into many country repertory clubs. At The University of Western Australia, graduates and undergraduates were influenced by Jeana Bradley and Neville Teede, equally distinguished as actor and teacher.

The opening of the National Institute of Dramatic Art (NIDA) in Sydney in 1958 provided Australia's first full-time professional course in acting. Two West Australians in the first intake were Priscilla Broadbent (née Thompson) and Pippa Williamson (née King). However, there was a growing recognition, following the establishment of the National Theatre Company in Perth, fully professional by 1960, that young Western Australians should be trained locally, rather than going to London or NIDA. The Western Australian Academy of Performing Arts (WAAPA) opened in 1980 on the site of the Mount Lawley College of Advanced Education.

Contemporary Aboriginal theatre in WA, particularly through the work of directors Andrew Ross and David Milroy at Yirra Yaakin Nyoongar Theatre (established 1995), has produced a number of significant writers (Jack Davis, Jimmy Chi) and actors (Richard Walley, Dorothy Collard and Lynette Narkle). WAAPA now offers a course especially for Aboriginal actors.

Acting training in WA began as a do-it-yourself activity. With the vigorous growth of the repertory club movement, training became more systematised but was essentially for the amateur, part-time performer. It has evolved into vocational training as audiences, those who took their theatre seriously, and those who aspired to stage careers, lobbied for more professional, full-time preparation. **David Hough**

See also: Aboriginal theatre; Theatre, amateur; Theatre and drama; WA Academy of Performing Arts; Yirra Yaakin; Youth theatre
Further Reading: G. Bolton and G. Byrne, *The campus that never stood still: Edith Cowan University 1902–2002* (2002); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004); D. Hough, 'The playmakers: Theatre' in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: Creating arts and identity in Western Australia* (2003); P. Parsons (ed.) with V. Chance, *Companion to theatre in Australia* (1995)

Adolescence emerged as an important social and scientific category in early twentieth-century Western Australia. The term 'adolescence' was employed in Commonwealth censuses to describe the 'natural age group' between childhood and adulthood that covered the ages fourteen to twenty years. The emerging field of psychology defined adolescence as a developmental stage marked by instability and vulnerability.

In WA these new understandings were disseminated from the 1920s onwards by educationalists such as Cecil Andrews and Wallace Clubb, medical authorities including state psychologist Ethel Stoneham, and social organisations such as parents' and citizens' associations. The adolescent years were often popularly referred to as the 'impressionable' or 'critical' years, but gradually the language of 'adolescence' permeated the popular media and lay discourse.

Adolescence was increasingly represented as a critical time of growth during which the adolescent was physically, morally and emotionally unstable. The successful negotiation

of these dangerous years was essential for the development of the state as well as the individual. Many saw the provision of guidance for adolescents as a community and government responsibility.

Concerns with adolescent development coalesced around several issues. Adolescents' special educational needs were met through increasing the establishment of central schools offering post-primary courses and high schools. Western Australia's first state high school was established in 1910. Adolescents were increasingly separated from primary-school children, although this was difficult in rural areas and barely attempted among Aboriginal youth. Educationalists argued that adolescents belonged in the school, where their development could be monitored, rather than the workforce. To this end, continuation classes were offered to those who left school at fourteen years, the minimum age. In the 1920s there were widespread calls to raise the leaving age, which intensified with the onset of the Depression and mass unemployment. While governments from both sides supported the idea, financial considerations delayed action until 1943.

The transition from school to employment also carried dangers. Some occupations, such as shop or factory work, were labelled 'blind alleys' as they offered no training or guidance for the developing adolescent, and could therefore lead to criminality or unemployment in adult life. These concerns were focused on white working-class boys, indicating that 'adolescence', while ostensibly a neutral category, was shaped by gender and class-based ideologies.

The impressionability ascribed to adolescents brought their leisure activities into focus. 'Modern' life brought new technologies and potentially harmful influences such as the cinema, while urbanisation reinforced older concerns about the city street. The Depression sparked renewed fears about the dangers of 'idleness' during adolescence, particularly for unemployed urban, working-class boys,

and the 'juvenile delinquent' was increasingly visible in the late 1930s and into the postwar period. A range of organisations were founded in the early twentieth century to counter these dangers and provide organised recreation for adolescents, including the Boy Scouts, Girl Guides and the YMCA.

Some commentators claimed the 'problem of the adolescent' was one of the most critical social issues that WA faced in the interwar years. The 1937 Royal Commission into Youth Employment was an attempt to come to terms with the social and economic conditions that had led to the problems ascribed to modern youth. The groundwork for the postwar 'teenager' had been laid.

The gradual spread of secondary, tertiary and technical education from the 1950s provided new goals and directions for many adolescents. From the 1970s a youthful international counterculture, the product of film and television, and a long period of full employment put money into the hands of adolescents, who now became a valuable market for goods and services. However, problems of unskilled labour, adolescent crime and unwanted pregnancy continue to perplex social planners. Adolescents in some Aboriginal communities are especially vulnerable to these hazards. **Kellie Abbott**

See also: Education, government secondary; Guides Western Australia; Perth Modern School; Psychology; Scouting; Technical education; Young Men's Christian Association (YMCA); Young Women's Christian Association (YWCA); Youth culture; Youth movements

Further reading: K. Abbott, 'Producing men? Masculinities, boys' employment and farm labour in early twentieth century Western Australia', *Limina*, 9 (2003)

Advertising in nineteenth-century Western Australia had its origins in public announcements by government and private merchants

to keep the infant populations of timber towns between Albany and Perth aware of opportunities to develop the land, to farm, to prospect and to mine, as well as to exploit the natural wealth of the hardwood timber forests of jarrah and karri. What were basically public announcements centred around the movements of ships and their cargoes, the availability of land for settlement and for purchase—broadened to include the supply of tools, farm implements—and patent medicines and the movement of commercial sales people around the countryside. The advertising pages of *The West Australian* looked more like today's public notices than opportunities for display advertising. There was a minimum of illustration and a maximum use of type—sometimes with a wide mix of fonts.

In the 1800s the *Government Gazette*, newspaper announcements, hoardings and handbills conveyed essential messages to inform and persuade the community. As the population spread to the far North, pastoralists and graziers, pearlers, whalers and others added to the need for timely and accurate information on the availability of goods and enterprising opportunities to buy and sell produce at home and overseas.

By the 1920s radio was added to the media available for advertising, and it was Wesfarmers, then a farmer cooperative, that established 6WF to get marketing information to the rural population. That role has been preserved in the ABC Country Hour. The need to have the latest product information often blurs the lines between pure marketing and pure information services. The same coming together of persuasion and information is apparent in twenty-first-century lifestyle features combining advertising and public relations in advertorial magazines.

As the population of WA grew to three-quarters of a million people in the 1950s, retail advertising strengthened. Quirky ads such as the humorous 'Gone to Bernells' featured each afternoon in Perth's *Daily News,* using the sort of Australian cartoon humour

made famous by the national *Smiths Weekly*. The advent of black-and-white television in the 1960s, fuelled mainly by newspaper interests, established the need for international television expertise. This was provided in the main by links between well-established Australian advertising agencies in Perth and counterparts in Sydney, Melbourne and overseas. It was the era of Canadian Marshall McLuhan's 'The medium is the message' and the peak of New York's David Ogilvy's reputation for research-based advertising. Both these masters had profound influence on Australia's top marketing professionals and Western Australian leaders in advertising.

Locally based Warnock Sandford, whose major client was Wesfarmers, grew into the largest agency in Perth, and some forty years later operates as Marketforce. Under the guidance of Bill Warnock this agency was responsible for in-depth design rarely seen before in Perth, to the extent that the agency employed a Swiss-trained print designer of typefaces.

Marketing Communications Services was the first agency to combine advertising and public relations in an integrated service in 1970. By the mid 1980s most medium-to-large advertising agencies in Perth had in-house public relations, direct marketing and research people, depending upon the requirements of their particular client base.

An economic downturn in the late 1980s saw most international advertising agencies either close their Perth offices or sell them to locals. This was followed by the *unbundling* (removal of their media departments) of most full service agencies in Perth. By the mid 1990s the number of 'full service' agencies fell from thirty-five to three, as four national media buying companies opened their Perth offices.

In the early 2000s international advertising agencies began moving back in to Perth, by buying shares in Perth agencies. Some agencies continue to purchase their media through media-buying houses, but most

choose to employ in-house media strategists. Clients have come to expect their agency to provide expertise across all communication disciplines, resulting in most agencies providing an integrated service. **K. P. Smith and Michele Elliott**

See also: Radio; Television; *West Australian*

Aged care and health, after settlement, were the responsibility of the individual. Families, predominantly the women, cared for their own aged. In the Swan River colony's 1832 census, only three of the approximately 1,500 colonists were aged sixty years or over. In the nineteenth century the government institutionalised impoverished aged in poorhouses, recycled convict depots and asylums. Later in the century, state public charities provided home assistance, the level of support being reduced when the Commonwealth's *Invalid and Old Age Pensions Act 1908* took effect. Since the 1890s, voluntary organisations and churches, such as the Salvation Army, Methodists, Anglicans and Catholics, and the Silver Chain (1905), have played significant roles in aged care, providing social services, domiciliary care, nursing and aged accommodation. From 1903, 'chronic sick' were admitted to the purpose-built, non-denominational 'Home of Peace for the Dying and Incurable' in Subiaco, funded by public donations, patient contributions and government subsidies. The Salvation Army opened an Aged Men's Retreat at Guildford in 1913, and Silver Chain their first Cottage Home in 1916. In 1906 the government opened the Old Men's Home poorhouse, Dalkeith (renamed 'Sunset' in 1943), replacing the Mount Eliza Depot. Aged women in Perth requiring care in the nineteenth century were placed in the Goderich Street Poorhouse, Perth, until 1909, then Fremantle Asylum accommodated these women (though inadequately), before they were moved to Woodbridge Home, Guildford, in 1942. In 1951 the state, assisted by the Lotteries Commission, opened Mount Henry Old Women's Home, Canning Bridge. Sunset and Mount Henry, both purpose-built institutions, later accepted either sex and were designated public hospitals in 1966. They provided care for patients with complex needs, unmet in other nursing homes. In the 1990s these now anachronistic hospitals were closed as non-government organisations had evolved.

In the 1950s a number of factors precipitated changes in aged care: long-term needs of elderly patients in acute hospitals; postwar increases in the aged population; and the concerns of the general community and health professionals, including Dr W. S. Davidson of the Public Health Department, Royal Perth Hospital almoners and Silver Chain nurses. Silver Chain provided district and bush nursing and domiciliary services in the community.

From 1954 the League of Home Help's community volunteers cooked and delivered Meals-on-Wheels, and organised home-help and day centres, receiving referrals from doctors, Silver Chain and social workers. Presided over by Florence Hummerston, the League opened their first social centre in Cleaver Street in 1957, and in 1961 a residential cottage in East Victoria Park.

In 1963 the Public Health Department appointed the state's first geriatrician, Dr R. B. Lefroy, then a Royal Perth Hospital physician. He established aged care assessment and rehabilitation, opening Mount Henry Restorative Unit in 1964 (and later on the Day Hospital); and supervised permanent care at Sunset and Mount Henry Hospitals, which linked with Sir Charles Gairdner and Royal Perth hospitals. Lefroy initiated the statewide, specialist multidisciplinary team approach to aged care referrals. New skills were developed in extended care nursing and allied health in permanent and restorative care. Fremantle Hospital opened the state's first day hospital in 1964, appointing a geriatrician in 1969. The other teaching hospitals followed suit:

training geriatricians and developing extended care, restorative units and day hospitals. In 1998 The University of Western Australia appointed inaugural professors in Geriatric Medicine and Geriatric Psychiatry.

Since the 1960s, churches, charitable and private groups and local government have also provided community services and the bulk of residential accommodation—building 'home-like' nursing homes, then hostels, independent living units and retirement villages. Commonwealth funding encouraged privatisation. Government accreditation of care and accommodation improved standards in the 1990s. Geriatric and rehabilitation services minimise disabilities and enable most people to live at home, curbing the expansion of residential care. Special dementia units provide residential and respite care, in surroundings designed to minimise distress. Linchpins of community care are families working with general practitioners and Silver Chain nurses, who organise therapies, care and equipment to maintain people at home, supported by hospital-based Aged Care Assessment Teams (ACAT)—which include social workers and allied health—and day hospitals. Various types of community assistance, including respite for carers and day centres, are provided by government (e.g. Home and Community Care, HACC), local councils and voluntary organisations, e.g. the Alzheimer's Association. The Council on the Ageing WA (COTA, originated in 1959) provides a voice for Western Australia's seniors.

In September 2006 Australian Bureau statistics show Western Australia's population at 2.05 million; in June 2005 11.8 per cent were aged sixty-five years and over. In the twenty-first century the state promotes healthy ageing at home. Only 8.2 per cent of persons seventy years and older live in Commonwealth-funded residential care facilities as of June 2006; and overall population-ageing continues to make the independence, wellbeing and care of the aged the subject of intense debate. **Trisha Malone**

See also: Palliative care; Public health; Silver Chain; Social work; Welfare

Further reading: J. Chetkovich and D. Gare, *A chain of care: a history of the Silver Chain Nursing Association, 1905–2005* (2005); R. B. Lefroy, *Geriatric medicine: early policy and practice in Western Australia* (2005); A. Whyntie, *The history of Sunset Hospital* (1999)

Agents-General The office of agent-general, the state government's representative in London (and, increasingly, in Europe) dates from 28 April 1891. The Hon. Septimus Burt QC acted as first agent-general until the appointment of Sir Malcolm Fraser on 21 April 1892. The agent-general's first offices were at 15 Victoria Street, London. In 1915 the office moved to Savoy House (renamed West Australia House in 1965) on the Strand. Generations of West Australians will remember the old West Australia House with affection. The office moved to the Australia Centre in 1998.

The agent-general's duties at various times have included: representing the state government to British and foreign governments, and to the federal government and other official bodies; dealing with corporate and private investors and foreign companies operating in WA; arranging financing of government and public works on the money market; arranging loan-raising and lending idle state money; purchasing for government departments, including major items such as ships, power-stations and railway rolling-stock; passing the premier official, unofficial and confidential information picked up in London; promoting WA as a tourist and migrant destination; promoting and securing markets for WA products; representing WA at ceremonial occasions; welcoming and assisting West Australians in London; recruiting for specialist positions; and raising Western Australia's profile. In 1983, for example, Agent-General Ron Douglas seized upon Western Australia's

America's Cup victory to promote the state, and in 2001 Agent-General the Hon. Clive Griffiths organised a huge display of WA food and beverages at Selfridges. With protectionist European agricultural policies, activities like this have renewed importance.

The agent-general's usual term is three years. The longest-serving agent-general was Sir Hal Colebatch (the only man to hold the office twice), with terms in the 1920s and 1930s totalling nearly ten years. He was the official in charge of presenting the Secession Petition to the British parliament, and flew the Secessionist flag over Savoy House.

There have been twenty-five agents-general to date. The most important tasks today are representing the government's interests in Britain and Europe, and promoting trade and investment. The office is now known as the 'European Office'. **Hal G. P. Colebatch**

See also: Empire, relations with; International exhibitions; Politics and government; Secession

Further reading: H. G. P. Colebatch, *Steadfast knight: A life of Sir Hal Colebatch* (2004); B. K. de Garis, 'A political biography of Sir Hal Colebatch', Masters thesis, UWA (1962)

Agriculture has been the principal economic activity in Western Australia for most of its settled history and, within agriculture, wheat and sheep have been dominant. From the start, WA farmers and pastoralists faced unique challenges of poor soil and an unfamiliar climate and it was only after several scientific breakthroughs that they were able to succeed in the inhospitable environment. Indeed, European settlement was not attempted for almost two centuries because of unfavourable reports by European mariners who first landed on its coastline. At various times after this, inaccurate reports of fertile land encouraged settlement that ended in hardship or disaster. Examples of these were the glowing description by Captain Stirling

and Charles Frazer of the Swan coastal plain in 1827, the optimism of Thomas Peel in 1830 for the potential of the area south of Perth to Mandurah, and the enthusiasm for group settlement schemes for the high rainfall southern regions in the 1920s.

The original European settlers in 1829 fared poorly in the face of poor crops and unthrifty livestock on the newly cleared land on the coastal plain. Even when eastward exploration revealed fertile land for farming and grazing, it was found to be in relatively small areas interspersed within large tracts of poor gravelly or sandy country with little agricultural reward from the arduous task of clearing it. Grazing, rather than cultivation, was the most common land use.

Scientific advances that were to transform agriculture in WA coincided with the rapid population increase during the gold rushes of the 1890s. A Department of Agriculture was formally established in WA in 1898 and Professor J. W. Paterson was appointed to the foundation chair in Agriculture at The University of Western Australia in 1914. The first trials with superphosphate as a fertiliser began in this era and by 1911 there were two factories manufacturing superphosphate, which increased yields of both crops and pastures in soils that were all deficient in phosphate. It then became apparent that a legume, *Trifolium subterraneum* or 'sub-clover', grew well in the fertilised pastures and further contributed to fertility by fixing atmospheric nitrogen through root nodule bacteria. This was the boost that the wheat industry of WA needed to expand and become productive. The formula 'Sub, Sheep and Super', which referred to the legume, the animals that prospered in the pasture phase and the fertiliser, was used with little variation, particularly after the Second World War, as the recipe to enhance the soils and grow productive crops of cereals. This formula also enabled the sheep industry to flourish and wool became the major export of the state in this period.

Ploughing a field with an eight-horse team in Merredin in 1920s. Courtesy West Australian *(HIST5407)*

The success of the complementarity between sheep and cereal growing resulted in substantial expansion of the area under crops. The number of hectares under wheat, for example, was only 30,100 hectares in 1901 but reached 1,600,900 hectares in 1931. Expansion ceased during the Depression and the war, with this level not reached again until 1961. In 2004 the area under wheat was 4,917,000 hectares. The expansion of the area under crop in WA was accompanied by large-scale clearing of native vegetation for cultivation on very sandy soils. This clearing, particularly in the 1950s and 1960s, was associated with the discovery of the role of trace elements in plant and animal nutrition. In particular, relatively small quantities of zinc, copper and molybdenum were able to induce spectacular increases in the yield of crops and pastures in many areas. In animals, minute amounts of selenium and cobalt, in the diet or as long-acting pills, cured white muscle disease and 'coastal disease' in sheep and cattle at relatively low cost. E. J. Underwood and J. E. Filmer in WA had discovered that cobalt is an essential nutrient in the diet of ruminants in 1935.

More recently, spurred by lower profitability from wool and sheep and continuing good markets for cereals and other crops, the importance of pastures and sheep to maintain soil structure and fertility has diminished. New and more versatile varieties of cereals and new, non-cereal crops such as canola and grain legumes, particularly sweet lupin, which was developed in WA from a weed, began to contribute significantly to rural income. Canola and sweet lupins increase wheat yields in subsequent years by decreasing root diseases. Modern methods of minimum tillage to reduce structural damage to soils, huge machinery to allow rapid response to seasonal changes, herbicides to replace sheep to control weeds and the use of artificial nitrogen to replace and supplement the nitrogen from pasture legumes saw many farmers abandoning livestock altogether.

Four legacies remain from these practices. First, an increasing area of land is affected by concentrations of salt that inhibit or prevent the growth of plants. Wholesale clearing of native perennial vegetation and its replacement by introduced annual crops and pastures resulted in less exploitation of sub-soil moisture, resulting in a rising water table bringing cyclical-deposited salt to the surface. Second, in response to higher levels of nitrogen through legumes and artificial fertilisers, the soil in many regions has become more acid and less favourable for many crops without the widespread application of lime. Third, the widespread use of herbicides has selected resistant strains of a number of weed species in a relatively short time and there appear to be few or no substitute herbicides. Fourth, in most of WA, increasing size of farms through mechanisation has reduced rural populations to an extent that has dramatically and, many would say detrimentally, altered the social life in these regions.

In 2003–04, Western Australia's grain production included wheat, barley, oats, canola, lupins and other pulses. Eighty per cent was exported. Western Australia's wheat exports represented 52 per cent of total Australia's wheat exports, and made up 9.5 per cent of the world's total wheat trade.

Agriculture in WA owes its success to the capacity of its agricultural scientists and the ingenuity of its farmers to turn old, shallow

and intrinsically poor soils into the foundation for a vast, productive industry. It will need to continue to rely on these skills to maintain that productivity into the twenty-first century.
David Lindsay and Alan Robson

See also: Dairying; Horticulture; Livestock; Pastoralism; Salinity; Wheat; Women on farms; Wool
Further reading: Australian Bureau of Statistics, *7124.0—Historical selected agriculture commodities, by state (1861 to Present), 2005* (2006); G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979)

Air Force An enduring feature of the history of the Royal Australian Air Force (RAAF) in WA has been the RAAF Base at Pearce. Construction of the base started in October 1935 and it was opened in March 1938. Pearce at the time was only the RAAF's fourth permanent base, the other three being in Victoria and New South Wales. Named after WA Senator Sir George Pearce, a former minister for defence, the base is located on the north-eastern outskirts of Perth. The first occupant was No. 23 (later renumbered 25) (City of Perth) Squadron, a Citizen Air Force (i.e. reserve) squadron under the command of Wing Commander R. J. Brownell.

Following the outbreak of war in September 1939, the RAAF in WA expanded rapidly. While Pearce remained as the main operational base, several administrative and training bases were established within the Perth metropolitan area, while pilot training schools began at Cunderdin in December 1940, for elementary training on Tiger Moth aircraft, and at Geraldton, in February 1941, for advance training on Avro Anson aircraft. Operational activities at that time were focused on seaward surveillance in protection of shipping out of Fremantle and around the south-west corner of Australia. Hudson and Wirraway aircraft from Nos 14 and 25

Squadrons at Pearce flew constant patrols, making use of advanced bases at Albany, Busselton and Carnarvon.

Then, following the entry of Japan into the Second World War in December 1941, the RAAF in WA underwent a further expansion. Operational airfields were established in the North-West, at Pot Shot on the North West Cape, Yanrey Station in the Pilbara, Corunna Downs near Marble Bar, and Truscott near Kalumburu. A new airfield, specifically for the air defence of Perth, was established at Dunreath Golf Course, later known as Guildford and the site of the present Perth International Airport, while numerous air surveillance radar stations were established around the WA coast, from Albany to Sir Graham Moore Island, north of Kalumburu. Major support bases were also established in the South, including an aircraft maintenance depot at Boulder and a stores depot at Merredin. Women began RAAF training at Pearce in March 1942, until the No. 3 WAAF Depot was set up at Karrinyup. In January 1945 the training base at Cunderdin became a heavy bomber base. From there, Liberator bombers of No. 25 Squadron carried out raids against Japanese bases in eastern Java, stopping off to refuel at Corunna Downs.

The threat of Japanese invasion also led to the establishment and relocation of a number of squadrons to WA. Nos 68 and 69 Squadrons, equipped with Anson aircraft, were established at Geraldton in December 1941. No. 35 Squadron was established at Pearce on 11 March 1942 using a variety of civil aircraft pressed into wartime service. No. 77 Squadron was formed at Pearce on 16 March 1942 with Kitty Hawk aircraft obtained from the USA, but later that year was moved to the Northern Territory. No. 25 Squadron was then the sole air-defence squadron in south-west Western Australia until the establishment of No. 85 Squadron, with Brewster Buffalos and Boomerang aircraft, in March 1943.

During the Second World War some 20,000 men and women from WA served

in the RAAF as both aircrew and ground staff, at home and overseas in most theatres of war.

Following the war, the RAAF in WA was reduced, by October 1952, to its prewar strength of a single base at Pearce. No. 25 Squadron was re-formed in April 1948 as a Citizen Air Force Unit to train Reserve pilots to fly Tiger Moth, Wirraway and Mustang aircraft, and to train associated ground staff. With the advent of jets additional land was acquired at Pearce in the late 1940s and early 1950s so that longer runways could be built. The newly re-established No. 11 Squadron operated out of Pearce from 1950 to 1953, with first Avro Lincoln then Neptune mari-time patrol aircraft. In May 1958 Pearce took on a new role of advanced pilot training, flying initially Vampire, then Macchi and latterly PC9 aircraft.

As part of the postwar development of the RAAF, unmanned operational airfields were established at Learmonth (1973), on the site of the old Pot Shot airfield, and at Curtin (1988), on a new site south of Derby.
Norman Ashworth

See also: Cadets, air; Second World War; Women, world wars
Further reading: A. Stephens, *The Royal Australian Air Force* (2001); C. D. Coulthard-Clark, *The third brother: The Royal Australian Air Force 1921–39* (1991)

Albany has developed from the first place of British settlement in Western Australia into an international seaport and regional centre. It gained city status in 1998. In 2006 it had a population of about 31,574 in a district of 4,315.1 square kilometres. The area was originally the territory of the Mearnanger or Mineng people, whose names for the region included Marrieagrurrup, for marri (a red gum), and Monkbeelven, for King George Sound, from the words mon (meeting) and bilo (a body of water).

The first known European sighting of the south coast was recorded in January 1627, from the Dutch vessel the *Gulden Zeepaerdt*. The Royal Navy surveyor George Vancouver claimed possession of the region for Britain on 29 September 1791, but it was the 1801–03 expedition of Nicolas Baudin and associated anxiety over later French interest in the area that prompted the British decision to occupy the area. The brig *Amity* reached King George Sound from Sydney on 25 December 1826 to land a small military detachment and a labour force of twenty-three convicts, all commanded by Major Edmund Lockyer. He named his outpost 'Frederick's Town' and it remained officially part of NSW until the colony of WA was established under Lieutenant-Governor Stirling, who changed the name to Albany in 1832. New South Wales's Governor Darling had considered creating a penal settlement there but the idea was abandoned in 1831.

Vancouver's 1791 reports of seals and whales later gave the coast its first industry. The British whalers *Elligood* and *Kingston* reached the sound in 1800 and Baudin commemorated an 1803 meeting with an American sealer, the *Union*, by naming Port des Deux Peuples, now Two Peoples Bay. Albany's Frenchman Bay whaling station, the last in Australasia, was closed in 1978, a move dictated, the company said, by falling profits, not public protest against whaling. The closure reportedly cost Albany $10,000,000 a year in lost wages, ship maintenance and port dues, and the Albany Port Authority lost 12.5 per cent of its bunker (refuelling) trade. The station was later converted into Whale World Museum.

Among Albany's heritage properties, the Old Farm at Strawberry Hill emerged from the birth of WA primary production on land first cultivated in 1827. The stone house, today a National Trust property, was built in 1836 for the Government Resident at Albany, Captain Sir Richard Spencer, RN. The Anglican Church of Saint John the Evangelist, consecrated

in 1848, later became Western Australia's oldest remaining place of worship and the Old Gaol Museum was a convict depot. The present Albany premises of The University of Western Australia, built 1869–70 and gaining a clock tower in 1896, originally housed courtrooms, public offices, a customs house and post office. A telegraph station was added in 1872 for a Perth–Albany line. The service was extended to South Australia via Eucla, becoming the Intercolonial Telegraph Line which, in 1877, linked WA to the outside world. A telephone exchange added in 1895 served 112 subscribers.

The Albany Town Hall, completed in 1888, reflected a surge in local confidence resulting from an 1884 agreement between WA government and a Sydney entrepreneur, Anthony Hordern, to build the Great Southern Railway under the 'Land Grant System', linking Albany and Perth. The contract gave Hordern collateral for floating the West Australian Land Company, which constructed 391 kilometres (242 miles plus foreshore and jetty line at Albany) of line to Beverley, connecting to an existing line to the city. In return the company received 3,000 hectares (about 7,400 acres) of land per kilometre for sale to settlers. The Albany terminal, a jetty 518 metres long, completed in 1888, enabled the direct loading or unloading of goods between ship and train.

Hordern died in 1886. His railway was opened on 1 June 1889, but difficulties between the company and communities along the line, over the land grants, led to the government purchasing the railway and remaining land for £1.1 million on 1 December 1896. By then, gold prospectors and other passengers were disembarking at the port at a peak rate of nearly 29,000 a year in the 1890s to buy stores and equipment at Albany before heading inland for the goldfields. Albany Court House, opened in 1898, enabled local sittings of Circuit Courts and also provided office space to handle new land releases and other public services.

Setbacks affected Albany after shipping was attracted to the new Fremantle inner harbour from 1897. Mail steamers on the England–Australia route, which had been calling at Albany since 1852, moved to Fremantle the following year. Other trade dwindled, rail services were cut, and the population halved in five years. In 1908, however, Albany hosted the historic 'Great White Fleet', sixteen battleships of the United States Navy on a Pacific cruise. In 1914 the first convoys taking Australian and New Zealand troops to the First World War assembled in the port. For many men, Albany provided a last sight of Australia.

Recovery in the twentieth century brought new trades and industries, some to be successful for many years and then disappear. Among them, exports of brown mallet bark for tanning and other uses reached up to 20,000 tons a year before the trade ended in the 1960s. Meat, fruit and wool peaked in the second half of the twentieth century and then moved to Fremantle, and the Albany woollen mills, opened in 1925, weathered ups and downs for more than sixty years until they closed and were then demolished. Lasting successes included the Albany superphosphate works and grain exports, which progressed from bagged wheat to bulk handling of assorted grains, reaching a year's total of 2,247,688 tonnes in 2004/05. The grain plus exports of plantation woodchips and silica sand, with fertiliser and fish imports, reached a record cargo total of just under three million tonnes in 2005.

Burgeoning tourism and retail trades have helped place Albany on a firm base of economic growth and stability as a regional centre in the Lower Great Southern. Statistics for the early 2000s put the annual number of visitors to the region at 543,500 domestic and 7,900 international, spending $203 million. The year 2005 brought a Memorandum of Agreement between the state government and the Albany City Council on proposals for new tourism, recreation, community and

other projects in the district, chiefly on the City (as distinct from Albany Port Authority) section of the Princess Royal Harbour foreshore. **Les Johnson**

See also: British maritime exploration; Dutch maritime exploration; First World War; Foundation and early settlement; French maritime exploration; Great Southern; Great White Fleet; Merchant shipping; Railways; Whaling; Wheat

Further reading: D. S. Garden, *Albany: a panorama of the Sound from 1827* (1977); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986); L. Johnson, *Albany: port with a past and future* (1997)

Alternative medicine (also known as complementary medicine, natural medicine, and unorthodox medicine) covers a range of practices and therapies including naturopathy, homoeopathy, acupuncture, massage, reflexology, herbal medicine, chiropractic, hypnosis, meditation and yoga. Practitioners emphasise self-healing, take a holistic approach, and aim to stimulate the 'life-force' to rebalance the body, mind and spirit. By contrast, doctors of western medicine are perceived to be disease-focused and more prone to intervene with drugs and/or surgery.

The concept of alternative medicine is relative to time and place. Practices that are now considered alternative may have been mainstream two centuries ago. In colonial Western Australia healthcare options included homoeopathy, patent medicine and household remedies, as well as orthodox western medicine. In 1870, for example, a Busselton doctor complained to the Colonial Secretary because he found that the locals preferred the medical care offered by their pastor. The 1890s gold boom saw the arrival of massage, hydrotherapy and electrotherapy in the colony, and in 1894 two homoeopathic chemists existed in the centre of Perth. By the First World War, however, western medicine was the dominant form of healthcare. Changes to legislation were an effort to professionalise western medicine and an endeavour to gain control, authority and status, which ultimately resulted in the marginalisation of alternative practices.

In the latter decades of the twentieth century the popularity of alternative medicine increased throughout the western world as the general public became less satisfied with western medicine. In some cases western medicine has reacted positively to changing public attitudes. Some general practitioners, for example, supplement their conventional practices with alternative practices such as acupuncture and homoeopathy. A 1998 survey of 400 general practitioners in Perth found that 75 per cent of the doctors had referred a patient to a complementary therapy, a measure of significant interest in alternative medicine.

Today, patients are more aware of themselves as consumers and choose their healthcare from a range of options, visiting conventional doctors and alternative practitioners and treating themselves with 'natural' remedies. They find information in self-help books, newspaper articles, 'New Age' directories, fairs, and on the Internet. Products and 'natural' medicines can be purchased in health-food shops, and in pharmacies alongside western medicines. Health insurers have changed their policies in reaction to public demand. Private health insurers acknowledge a range of alternative practitioners, and Medicare, the national health system, reimburses patients for acupuncture treatments when performed by accredited general practitioners. **Nicole Crawford**

See also: Health insurance
Further reading: P. Martyr, *Paradise of quacks: an alternative history of medicine in Australia* (2002); P. Martyr, 'Protectors of the Public? Medical orthodoxy and the suppression of alternative practice in Western

Australia, 1870–1914' in C. Fox (ed.), *Historical Refractions. Studies in WA History*, 14 (1993); A. Stanway, *Alternative medicine: a guide to natural therapies* (1986)

Alumina, the semi-processed form of aluminium, has been produced in WA since the 1960s and has become one of the state's most significant mineral exports.

Four refineries in the South-West—at Kwinana, Pinjarra, Wagerup, and Worsley—produce nearly one-fifth of the world's alumina, and two-thirds of the total produced in Australia: some for Australian aluminium smelters, but most being exported. By 2003–04 the Western Australian refineries sold 11.1 million tonnes, valued at $3.2 billion, an increase in tonnage of 41 per cent in a decade.

Expansion is planned by both the state's producers, Alcoa Inc. and the Worsley venture, controlled by BHP Billiton, largely induced by a rapid increase in consumption in the vigorous Chinese economy. There is also renewed interest in the vast deposits of bauxite, from which alumina is produced, on the Mitchell Plateau in the north Kimberley. These were discovered in 1965, but the remote location has discouraged potential investors. The hundreds of millions of tonnes of bauxite outlined on the plateau remain a potential resource of world significance.

WMC Limited began exploring the bauxite in the Darling Range in 1957. Encourageing results prompted an invitation to two other Australian mining companies, Broken Hill South Ltd and North Broken Hill Ltd, to join the venture. A new company, Western Aluminium N.L., was formed to develop an integrated aluminium industry. The search for more capital and more advanced technology led to a partnership with the Aluminium Company of America (now Alcoa Inc.), and Alcoa of Australia was formed in June 1961. It was granted a 12,619 square kilometre bauxite mining lease by the Western Australian government.

Ground was broken for the Kwinana alumina refinery near Perth in December 1961 and the first open-pit mine opened in 1963 at Jarrahdale, 48 kilometres south-east of Perth. Worsley Alumina Pty Ltd started mining bauxite from Mt Saddleback near Boddington in 1984.

The shallow opencast mines in the Darling Range have been reafforested in programs that have won global attention, although environmentalists have expressed concerns about mining from time to time. The industry is regarded as among the most efficient in the world, but efforts to establish the final stage in the process, aluminium smelting, in this state have been fruitless. A major obstacle is the cost of electricity, a key factor in the economics of producing the metal. Alumina refining is also a high-energy user, with the four refineries major consumers of natural gas (in the case of Alcoa) and coal (at Worsley).
John McIlwraith

See also: Geology; Kwinana; Mining and mineral resources; Pinjarra
Further reading: G. Blainey, *White gold: the story of Alcoa of Australia* (1997); R. A. Hinde and D. M. Marantelli, 'Bauxite mining by Worsley Alumina Pty Ltd at Boddington, WA', in J. T. Woodcock and J. K. Hamilton (eds), *Australasian mining and metallurgy: the Sir Maurice Mawby memorial volume* (1993); A. A. Kirke and A. M. Murray, 'Bauxite mining and processing', in R. T. Prider (ed.), *Mining in Western Australia* (1979)

Ambulance services In the nineteenth century transporting the sick and injured was a personal responsibility. The first ambulance service was the Perth Metropolitan Police Ambulance Corps, which began in October 1902. They used a litter—a stretcher mounted on a two-wheeled trolley—to carry patients. In January 1903 the Metropolitan

Fire Brigade began their service with a horse-drawn ambulance wagon. Only accident cases were transported. Both police and firemen attended St John Ambulance first aid courses, taught by local doctors who had helped to establish a Perth centre of the British St John Ambulance Association in 1892. Gradually other transport facilities developed, with horse-drawn ambulances located at Perth's race tracks, Perth City Council, Claremont, Fremantle, Subiaco and Victoria Park. Litters were also widely used at Fremantle Harbour and at railway stations in Perth and major country towns. Standard ambulance equipment included bandages, wooden splints, oil and brandy.

Between 1907–11, various ambulance corps, such as Police, Fremantle Lumpers, Government Railways, Eastern Goldfields and Fire Brigade, affiliated with St John. The Fire Brigade introduced a motor ambulance in 1917. However, the number of calls increasingly overwhelmed the volunteer groups, who sought a new arrangement with St John. Consequently, the St John Ambulance Service began in July 1922 as an extension of its first-aid training and transported both medical and accident cases. By June 1923 St John was operating ambulance facilities in Perth, Fremantle, Claremont, Midland, Northam, Geraldton, Bunbury, Albany and Cue. The Aerial Medical Service began in

Model-T Ambulance in front of the Murray Street Perth Headquarters of St John Ambulance. Courtesy St John Ambulance Australia (WA)

1935, covering remote areas, while on the ground St John expanded further into country areas using mostly volunteer staff.

Major changes followed the Second World War. Community expectations were rising and standards of pre-hospital care increased in training, vehicles, equipment and structure. The current comprehensive ambulance service in the state is an accumulation of these changes. St John Ambulance evolved from a medical charity to an independent non-profit organisation funded primarily by patient fees, subscriptions and government subsidies. It is run by professional management in conjunction with the St John Ambulance State Council and is responsible for the provision of ambulance and first-aid services throughout the state. **Edith Khangure**

See also: Fire brigade; Royal Flying Doctor Service
Further reading: I. Howie-Willis, *St John, ambulances and Western Australia: A centenary anthology 1892–1992* (1992); I. L. Kaye-Eddie, *A short history of the Convention of Ambulance Authorities, 1962–1995* (1996); E. Khangure and I. Howie-Willis, *Reflections and directions: A history of the Commandery of the Order of St John in Western Australia 1947–1997* (1997)

America's Cup The wresting of the America's Cup from the New York Yacht Club in 1983 was very much an Australian win, whereas the Cup defence off Fremantle in 1987 was very much a WA event, entering local legend as a 'Fremantle' event.

The America's Cup was first raced in 1851, and the American winners donated the Cup in 1857 to the New York Yacht Club for a perpetual international challenge competition. Contested between two yachts (a challenger and a defender), the America's Cup became the Holy Grail of yacht racing. From 1870, American yachts successfully defended the Cup on twenty-four occasions.

Australia's *Gretel*, *Dame Pattie* and *Gretel II*, sailing out of Sydney, had made unsuccessful challenges in 1962, 1967 and 1970 respectively, before Alan Bond, a local WA entrepreneur, took over the cause in 1974 with *Southern Cross*, based at Sun City Yacht Club at Yanchep where he had extensive real estate holdings. Bond mounted two more unsuccessful challenges in 1977 and 1980 with his yacht *Australia* before finally winning with the revolutionary winged keel *Australia II* in 1983, sailing under the burgee of the Royal Perth Yacht Club, which became the host club for the defence off Fremantle. After four years' build-up to the 1987 defence, Alan Bond's *Australia III* lost its bid to defend the Cup when Kevin Parry's *Kookaburra III* triumphed over three other potential syndicates. Dennis Conner's *Stars and Stripes* won first the Louis Vuitton Cup against twelve other challengers, and then took the America's Cup 'home'. Despite the Cup's short sojourn in WA, it had long-term impact, with Fremantle retaining its new image as a tourism destination and *Australia II* living on in Western Australia's new Maritime Museum, where it was transferred in 2002 after nearly two decades in Sydney's National Maritime Museum.
Jim Macbeth and John Selwood

See also: Boat and ship building; Fremantle; Tourism; Yachting
Further reading: M. Levitt and B. Lloyd, *Upset: Australia wins the America's Cup* (1984); G. J. Syme, B. J. Shaw, D. M. Fenton and W. S. Mueller (eds), *The Planning and evaluation of hallmark events* (1989)

Anglican church From the foundation of the Swan River colony, the Church of England was an active partner in the process of colonisation, and the first colonial chaplain, J. B. Wittenoom, was in effect a salaried agent of government. Even before Wittenoom's arrival in 1830, regular religious services had taken place through Lt Frederick Irwin, who read prayers to his troops and oversaw the construction of the first church structure in the colony, known as the Rush Church.

The Rush Church in Perth had served also as a courthouse, and when the new Court House was opened in 1837 it operated also as the Anglican place of worship, symbolising the continuing synergy of political and religious authority. Provision of a dedicated Anglican place of worship in Perth had to wait until January 1845 when the first St George's Church was opened, a Georgian-style building, which remained the base of Wittenoom's ministry until his death in 1855 and the centre of the Anglican presence in Perth until the opening of the new cathedral in 1888.

Outside Perth there were early settlements at Fremantle and Guildford, at Augusta and King George Sound (Albany). Wittenoom travelled on horseback to Fremantle and Guildford on alternate Sundays, but elsewhere there was a heavy reliance on the good offices of laymen. By 1836 church buildings had been erected in Albany and at Guildford, followed soon after by Middle Swan (1840) and Upper Swan (1841), Picton (1842) and Fremantle (1843).

Among the clergy who arrived in the colony in the 1840s, the Reverend John Ramsden Wollaston laboured without a stipend in the Bunbury region and, after only a year and a half in his new country, harvested his own provisions and opened a wooden church at Picton near Bunbury in 1842. His extensive journals provide an excellent primary source for early Anglican history and the wider immigrant experience.

The church in the Swan River colony had developed entirely independently of its sister communities in the eastern colonies. At first notionally under the diocese of Calcutta and then the newly created diocese of Australia (1836), episcopal supervision only became a practical possibility with the creation in 1843 of the diocese of Adelaide, which included WA. In 1848, Bishop of Adelaide Augustus

Short visited the colony with his archdeacon Mathew Hale, carrying out confirmations and consecrating all the churches so far erected. On his departure he appointed John Wollaston as archdeacon, and in the following years Wollaston carried out visitations in all the settled parts of the colony until his death in 1856.

Bishop Short, who had visited the colony again in 1852, was convinced that Perth needed its own bishop, and in due course Mathew Blagden Hale was designated as the first bishop of Perth. Hale visited the colony on his way to his consecration in England and returned early in 1857. Having access to private means, he was able to arrange for the building of Bishop's House and a secondary school while the number of clergy increased significantly.

With Hale's appointment, St George's Church had become a cathedral and the incumbent, George Purvis Pownall, its first dean. Hale was aware of the cathedral building's serious limitations but his priorities continued to lie with a more adequate provision of clergy.

Even before his arrival Hale had argued that, following the advent of convict transportation in 1850, Perth should be treated as a reformatory colony rather than a penal settlement, but he experienced frustration that neither these views, nor his views on Aboriginal policy—relatively enlightened for the day—met with support either within the Church or within the colony. These disappointments may have resulted in his decision to accept appointment as Bishop of Brisbane in 1875.

Perth had been the last Australian diocese to establish synodal government, in 1872, and in the same year joined with the other states to form the General Synod of the Dioceses of Australia and Tasmania.

When Hale left the colony, his successor, Henry Hutton Parry, made the building of a new cathedral a major goal, and this was completed in 1888, one of three Gothic revival cathedrals in Australia designed by Sydney architect Edmund Blacket.

Parry died in office in 1893 and was succeeded by Charles Owen Leaver Riley. From 1895 to his death in 1929, Riley's influence was dominant in all aspects of Anglican life. His clashes with a series of cathedral deans—most notably with the Anglo-Catholic Frederick Goldsmith (Dean 1888–1904)—left a long-term legacy in terms of tensions between the diocese and the cathedral, which resurfaced from time to time throughout the remainder of the twentieth century.

Riley presided over the creation of the dioceses of Bunbury (1904), with Goldsmith its first bishop; the North-West (1910) and Kalgoorlie (1914), thereby achieving his goal of becoming Archbishop of the Province of Western Australia. Kalgoorlie subsequently proved financially unviable and was reabsorbed into Perth in 1973.

Riley's influence was profoundly felt within the wider community. Chaplain General of the armed forces during the First World War and Grand Master of the Freemasons, he had close associations with political and civic leaders and was actively involved with leading layman Winthrop Hackett in the creation of The University of Western Australia. The diocese at this time exhibited a moderate Evangelical tenor. A number of its leading laymen were prominent in Perth social, political and business circles and together they exercised a pervasive influence.

Riley's death coincided with the onset of the Great Depression followed by the Second World War. Led by Archbishop Henry Frewen Le Fanu, who became Anglican Primate in 1935, the church played a significant role in ministry towards the poor and dispossessed and supporting the war effort. Le Fanu viewed the economic system as flawed and inhuman because it was based on competition and the profit motive, but while some flirted with radical changes to society, church leaders generally assumed that any solution to the crisis lay in the transformation of individuals.

Following the war, WA experienced a rapid and dramatic period of expansion, part of a wider Australian phenomenon but outstripping the rest of the nation as the state's economy was transformed by the rapid development of mineral resources. The church, now led by Archbishop Robert Moline, shared in this expansion with the rapid development of new parishes especially in the expanding suburbs of the metropolitan area.

From 1963, Archbishop George Appleton, a churchman with wide international experience, especially in Asia, presided over the diocese until his appointment as Archbishop in Jerusalem in 1969. The last three decades of the twentieth century, under Archbishops Geoffrey Sambell (1969–80) and Peter Carnley (1981–2005: Primate 2000–04) brought involvement in many controversies, ranging from Sambell's stand on behalf of the Swan Valley fringe dwellers to Dean Hazlewood's rock masses; from the dispute between Dean Robarts and Archbishop Carnley over the ordination of women, to widespread public discussion of major ethical and theological issues.

In terms of the wide spectrum of Anglican 'churchmanship', the diocese of Perth has generally maintained a liberal middle-of-the-road position between the extremes of Evangelicalism and Anglo-Catholicism, while Bunbury has combined Anglo-Catholic and charismatic traditions, and the North-West, strongly Anglo-Catholic in earlier times, has since 1992 been firmly evangelical in the mould of the diocese of Sydney.

The consistently higher proportion of British-born migrants in WA compared with other Australian states is reflected in the Anglican Church, though its membership is multicultural, and its seventh Archbishop, Roger Herft (2005–) is Sri Lankan by birth. Its social and economic composition is diverse, but weighted more to the upper end of the scale.

Missionary work among the Indigenous population began very early with the appointment of Louis Giustiniani, who worked in the York region in the 1830s, and continued with John Gribble in the Gascoyne region in the 1880s and his son Ernest Gribble at Forrest River in the second decade of the twentieth century. All three exposed atrocities against the Indigenous population and in so doing alienated elements among the settlers—many of whom were prominent in Anglican circles—and all three were in the end humiliated and obliged to leave. Only in more recent times have more positive relationships been sustained with the Indigenous community.

Through the greater part of their history, Anglicans were numerically the largest religious group in the state, and for a substantial period their leadership role within the community was taken for granted. The Anglican Church sponsored a wide range of voluntary organisations, including the Mothers' Union and youth organisations such as the Church of England Boys' Society and the Girls' Friendly Society. Sixty-six per cent of the population were members of the Church of England in 1848, though this had fallen to 42 per cent in 1901. More recently, the combined effects of a lower birthrate, postwar immigration from predominantly Roman Catholic countries and advancing secularisation have steadily eroded the Anglican church's hegemony, so that the 2006 census recorded only 20.4 per cent (400,480) of the population as Anglican.

On the other hand, the Anglican Schools Commission has dramatically increased its educational involvement in the community through a network of low fee schools, while social welfare activity through Anglicare has been both expanded and professionalised. Strong and positive relationships have been maintained with a wide range of civic, cultural and community groups, while the church contributes to public life and discussion as one of a number of significant stakeholders in WA society, and its cathedral continues to function as a focus for public celebrations.
John Tonkin

See also: Aged care; Church–state relations; Education, independent schools; Foundation and early settlement; Freemasonry; 'Gribble affair'; Missions; Religious orders; Spirituality and religion; Women, ordination of

Further reading: G. Bolton and H. Vose (eds), *The Wollaston Journals,* vol. 1 (1991); G. Bolton and H. Vose (eds), *The Wollaston Journals,* vol. 2 (1992); C. Holden, *Ritualist on a tricycle: Frederick Goldsmith: church, nationalism and society in Western Australia, 1880–1920* (1997); H. Mann and G. Bolton (eds), *The Wollaston Journals*, vol. 3 (2006); R. Strong, 'The Reverend John Wollaston and colonial Christianity in Western Australia 1840–1863', *Journal of Religious History*, 25, 3 (2001); J. M. Tonkin, *Cathedral and community: A history of St George's Cathedral, Perth* (2001)

Animal welfare An organised focus on animal welfare emerged in Western Australia on 2 August 1892 when the WA Society for the Prevention of Cruelty to Animals (WASPCA) was founded by women members of St George's Reading Society. They styled their society on Britain's Royal Society for the Prevention of Cruelty to Animals (RSPCA), instigated by William Wilberforce and the Reverend Arthur Broome in 1822. By January 1893 there were ninety-five members of the WA Society, including prominent women of the colonial and political elite.

The objectives of the Society were to prevent cruelty to animals by enforcing the existing law, to establish further legislation to protect animals and educate the public in responsible animal care. Enforcement of these objectives was enabled through relevant sections of the *Police Act 1892* and the *Dog Act 1883*. Like the other animal welfare societies emerging around Australia at this time, the society's concerns arose from the ill-treatment of horses. The initial focus on working animals was demonstrated by the tasks of the first salaried inspector, Titus Lander, who travelled

to towns, farms and timber mills assessing the welfare of animals, mainly horses. Lander continued to work in this role until he was elected into parliament in 1911 and later presented Western Australia's first animal welfare bill in 1912. Interest in domestic animals was also apparent in the construction of a lethal chamber in 1907 for the humane euthanasia of stray cats and dogs.

In 1911 the society established the first veterinary hospital in north Perth. Three years later the WASPCA received royal patronage to become the Royal Society for the Prevention of Cruelty to Animals (RSPCA). In 1912 the state's first *Prevention of Cruelty to Animals Act* was passed, making it a crime to mistreat animals. In 1920 sections of the *Police Act 1892* relevant to animal protection were transferred to the *Prevention of Cruelty to Animals Act 1920*. This Act gave the RSPCA significant autonomy in the protection of animals and the number of inspectors was increased. Inspectors have since been responsible for the policing of animal welfare standards at saleyards, abattoirs, live sheep export operations, pet shops, kennels and catteries, and public entertainment venues. The original *Police Act* and the *Dog Act* set maximum penalties for animal cruelty at £10 or three months' imprisonment. The *Dog Act (WA) 1976* amended and consolidated the law regulating the control and registration of dog ownership. This was further supported by the introduction of dog ear tattooing in 1980.

Alongside the RSPCA, numerous animal welfare and animal liberation structures have fought for the care and protection of farm and domestic animals in WA. The Dogs' Refuge Home in Shenton Park, established in 1935, is one of the oldest animal welfare agencies in Australia. In 1981 Mrs Ilse Howard instigated the first meeting of Perth's Animal Liberation group, which was loosely allied with other similarly named groups in major Australian centres. The catalyst for these particular organisations was philosopher Peter Singer's book *Animal Liberation*, published in 1975,

which drew parallels between the inequalities in human–animal relationships and those relationships brought under a critical gaze by contemporary global protest actions against racism and sexism. At this time, individuals and organisations were galvanised in a resurgence of animal welfare activity around the world.

Murdoch University has provided WA students with veterinary education since 1975. In 1997 the boycott of animal experimentation by a student began a campaign for humane alternatives in the teaching of veterinary science and Murdoch University subsequently became the first Australian university to formalise students' conscientious objection to animal experimentation or other areas of coursework.

In 2001 animal protection was given a substantial boost when the state government introduced new animal welfare legislation and provided a recurring grant to the RSPCA for the next four years. The *Animal Welfare Act 2002* redefined the boundaries of what is an animal by including live vertebrates other than humans and fish. The new Act, administered by the Department of Local Government and Regional Development, replaced the *Prevention of Cruelty to Animals Act 1920* and provides for the regulation of more specific cruelty offences. General inspectors, who can be nominated by the RSPCA, local governments, Department of Agriculture WA, and the Department of Conservation and Land Management, have powers to search and enter, as well as seize animals if they suspect that they are being treated inappropriately. Penalties have been increased, whereby an individual found guilty of a cruelty offence can face a fine of up to $50,000, or five years' imprisonment.

The live sheep trade, brought to a head by the *Cormo Express* incident, remains a contentious issue despite its benefit to the state's economy. Destined for Saudi Arabia, the *Cormo Express* left Fremantle on 5 August 2003 loaded with 57,000 sheep.

The shipment was refused in Saudi Arabia because of an allegation that six per cent of the sheep were infected with scabby mouth. Three months later negotiations between Australian and Eritrean governments resulted in the sheep being offloaded in Massawa. Over 5,500 sheep had died. In 2003 the federal Keniry Report investigating the incident released recommendations that included an Australian Code for Export of Livestock, onboard 'third party' veterinarians accountable to the Australian Quarantine and Inspection Service (AQIS), and a government agreement with Middle East countries to establish an operational quarantine holding facility. Six new livestock export standards came into effect in December 2004. **Suzanne Robson and Natalie Lloyd**

See also: Horses, transport; Livestock; Zoological gardens

Annexation, acts of Several proclamations were enacted in New Holland, prior to final annexation by the British in 1829. At the time, two different views were current concerning the law of annexation. Continental European powers claimed by right of ownership, while the British believed in the right of occupation and did not recognise claims not followed by occupation. French explorer Louis St Allouarn, in command of the *Gros Ventre*, claimed the western coast of New Holland for France two years after Captain James Cook took possession of the eastern coast of Australia. Heading north from Flinders Bay to Shark Bay, St Allouarn reached Dirk Hartog Island and, on 30 March 1772, planted the French flag at Turtle Bay and in the name of Louis XV (1710–74) claimed 'the land to the north-west' from where their vessel had anchored. However, the French navigator did not survive the long journey back to France and consequently the claim was not proceeded with. In 1998 a search party discovered a 1766 French coin inside a bottle buried on the island.

A second act of annexation took place in 1791 when Captain George Vancouver, commander of *Discovery*, accompanied by Commander Broughton in *Chatham,* decided to investigate the south-west coast of New Holland while on a voyage from England to the north-west coast of America. Sailing down the eastern Atlantic coastline and around the Cape of Good Hope, the vessels crossed the Indian Ocean and continued south en route to the Pacific. On 29 September 1791, Vancouver discovered a magnificent harbour on the south-west corner of New Holland, which he named King George the Third Sound, and an inner harbour which he named Princess Royal Harbour in honour of the Princess Royal's birthday. He took possession of the land viewed 'north-westward of cape Chatham, so far as we might explore its coasts'. Vancouver stayed in the area for two weeks and, although he observed an abundant supply of timber, fresh water and seafood, he also noted that the landscape offered little agricultural potential. He explored short distances inland and named several bays and islands. His detailed charts of the coast eastward to Termination Island were used by later explorers including Matthew Flinders, who visited King George Sound in *Investigator* from 9 December 1801 to 4 January 1802.

Following a direction issued by the Earl of Bathurst, Secretary of State for the Colonies, Governor Darling of New South Wales established two military outposts along Australia's southern coast to forestall the French. Both settlements were part of New South Wales; however, the outpost at Western Point in Victoria was short-lived compared to the one founded at King George Sound in 1826. The colonial brig *Amity*, under the command of Lieutenant Colson Festing RN, left Sydney on 9 November that year, with Major Edmund Lockyer in charge of a detachment from the 39th Regiment, twenty-three convicts and a small group of settlers. Lockyer established possessory lien at King George Sound, and on 21 January 1827 formally annexed that part of the coast for New South Wales, naming the settlement Frederick's Town (Albany). Darling advised Lockyer that, should he be challenged, he should insist that Britain had 'an indisputable right to the Sovereignity [sic] of the whole Territory'. The party maintained close contact with the Aboriginal people in the area and on 12 February, leaving Captain Wakefield in charge, Major Lockyer and a party of five set out to explore Riviere des Francais, noting the appearance of the country, the fauna, availability of water and suitable land for grazing and farming, as part of his proposed report to Governor Darling.

The settlement established at King George Sound was eventually brought under Lieutenant-Governor James Stirling's jurisdiction by proclamation in March 1831 and the garrison withdrawn to Sydney.

The whole of the western coast of New Holland was finally annexed for the Crown on 2 May 1829. Captain Charles Howe Fremantle, twenty-nine-year-old commander of the twenty-eight-gun frigate HMS *Challenger*, anchored off Isle Buache (Garden Island) on 25 April 1829, relieved to see no French flag visible on the mainland. Instructing the ship's master to mark a passage into Cockburn Sound and, if necessary, correct any irregular soundings earlier charted by Captain James Stirling when he visited the Swan River in 1827, Fremantle anchored in the Sound and dispatched shore parties to explore the island and search for water to replenish the *Challenger*'s supplies.

Early on 1 May, Captain Fremantle set out for the mainland to take possession in the name of the British Crown and to establish a campsite for the colony's first settlers and officials. The first attempt to land was aborted when the party 'found it impossible to enter from the excessive sea on the reef or bar extending from point to point'. The following day Fremantle returned in a cutter and gig, accompanied by a crew of fourteen and with enough provisions to last three days. After crossing the limestone bar at the mouth of

the river with great difficulty, the party landed on the south head of the river, hoisted the Union Jack and, on 2 May 1829, took 'formal possession of the whole of the west coast of New Holland in the name of His Britannic Majesty', King George IV. The annexation ceremony was low key and, after proceeding upriver to retrace Stirling's earlier expedition, Fremantle's party spent the night on Rous Head before they 'landed in a little bay just around Arthur's Head, which looked clean and grassy'. Meanwhile, *Challenger*'s men, under the direction of Lt Henry, commenced preparations in anticipation of *Parmelia*'s imminent arrival. **Ruth Marchant James**

See also: British maritime exploration; Foundation and early settlement; Foundation Day; French maritime exploration; HMS *Challenger*

Further reading: R. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); L. R. Marchant, *France australe* (1988); J. Shoobert (ed.), *Western Australian exploration*, 1 (2005)

Anthropology Ethnographic observation in Western Australia begins with seventeenth-century Dutch mariners Pelsaart in 1628 and Volkerson in 1658, recording encounters with Aboriginal people on the central west coast. Dampier (despite his baleful comment on 'the miserablest people in the world') carefully recorded in 1688 the stable community centred round fish-traps on King Sound, and the sagacity of the indigenes, leaving the intruders 'forced to carry our water ourselves'. Vancouver (1791) and D'Entrecasteaux (1792) recorded firing patterns and settlement sizes on the south coast. A decade later, Flinders opened the tradition of 'participant observation' by mounting a colourful parade of marines to farewell his King George Sound friends, who delightedly joined the ceremony.

Consciously analytical study began in 1800 after Degarando set out a program for 'the proper study of man' as 'a science of observation' to be pursued by the scientists on the Baudin expedition. Yet the detail of his proposals was unrealistic, the supposedly empirical approach barely veiling the program's all-pervasive assumption of European superiority.

A multiplicity of scientific interests—in topography (and ecology), technology, plant and animal resources, languages, and ethnography—pervades mid nineteenth century colonial records. The journals of George Fletcher Moore, George Grey and Bishop Salvado provide both valuable incidental observations and generalising accounts concerning Aboriginal numbers, groupings, movements, seasonal use of environmental resources, technology, facilities, ceremonies, and concomitant myth, song, dance and decoration (of participants and surroundings). Omnivorous ethnographic recording survived into the 1900s (for example, Ethel Hassell and Daisy Bates), when it was absorbed into the corpus of systematic anthropological observation.

The academic study of anthropology in WA was only beginning when in 1915 A. O. Neville was appointed 'Chief Protector' and complained 'there was precious little anthropology to help one'. The relative remoteness of parts of WA attracted investigators from the UK (A. Radcliffe-Brown in the early 1900s); the eastern states (A. P. Elkin in the Kimberley from 1927; Phyllis Kaberry in the 1930s; N. B. Tindale from the 1930s); Europe (A. Lommel, H. Petri and C. G. von Brandenstein, E. Kolig) and the US (Daniel S. Davidson from the 1930s, Ruth Fink in the 1950s, Lee Sackett and Richard A. Gould in the late 1960s and 1970s).

Paul Hasluck (journalist, historian, politician and later Governor-General of Australia), campaigning against A. O. Neville's paternalism, launched history's involvement in anthropological studies, both oral (recording

Hammond's 1930s reminiscences of *Winjan's People*) and documentary (his 1970s and 1980s dissections of Aboriginal policy), and this tradition continued through C. D. Rowley, P. Biskup, Lois Tilbrook, Anna Haebich, C. T. Stannage and Pat Jacobs.

Anthropology as an academic discipline in WA will always be associated with the names of Ronald Berndt, 'a benevolent figure puffing on his pipe', and his wife Catherine Berndt. Berndt taught from within the Psychology Department at The University of Western Australia (UWA) and in 1963 was appointed to the newly created Chair in Anthropology. Student numbers and staff expanded rapidly, in response to the need to train administrators in WA Aboriginal affairs, to build a more discerning corpus of public opinion and to pursue urgent research.

Through the Berndts, the new department was grounded in the structural and functional traditions established in Australia by their mentors: Radcliffe-Brown, who held the Sydney inaugural chair in Anthropology from 1926; and Elkin, who followed him. The stress was on synchronic rather than diachronic studies; discouraging comparative approaches, as leading to inappropriate diffusionist or evolutionist interpretations and speculative pseudo-history. The backbone was the mathematical complexities of kinship, and the rich symbolic structure of mythology and ritual. The Berndts also brought with them a healthy dose of American sociology, which formed the core of some of their courses.

The corpus of fieldwork carried out by the Berndts, their colleagues and their students will remain of permanent significance. They produced a series of monumental syntheses to which all later work in Australian Aboriginal studies must relate. They and their successors focused their endeavours on WA Aboriginal societies, not only in remote and pastoral settings but also rural and urbanised situations. Anthropological knowledge was applied to pressing administrative and practical problems, such as Aboriginal health;

responsibility for Aboriginal sites; and the vast field of land rights, native title claims and legal anthropology. Aboriginal studies came to include the role of women, art, economy and material culture, historical studies, oral history, applied anthropology, linguistics, and prehistoric archaeology. Separate identities eventuated in archaeology and linguistics.

The Berndts also initiated the spread of UWA studies into African and Asian anthropology, medical anthropology, agricultural and industrial societies, landscape studies, and migration studies. Anthropological studies were pursued in other institutions, for example, the WA Museum, and Curtin, Murdoch, and Edith Cowan universities; and under the umbrella of other disciplines, including psychology, history and cultural studies.

WA has fostered a tradition of empathetic observation, persisting from early incidental observations, through 'objective' scientific studies, to recent participatory fieldwork and deconstructionist philosophy. Whatever the fashions in anthropological theory, WA data will remain permanently valuable for future understandings of diverse human societies.
Sylvia Hallam

See also: Aboriginal culture and society, British maritime exploration; Dutch maritime exploration; Exploration journals and diaries; French maritime exploration; University of Western Australia
Further Reading: B. de Garis (ed.), *Campus in the community: The University of Western Australia, 1963–87* (1988)

Anti-nuclear movement The anti-nuclear movement in Western Australia can be dated to the end of the Second World War and the atomic bombing of Hiroshima and Nagasaki. Perth Quakers circulated a petition against atomic testing in 1946, the WA Peace Council was formed in 1949, the Modern Women's Club protested against British testing at Woomera and, by 1958, the Women's

International League of Peace and Freedom was pushing to ban testing of nuclear weapons on the high seas while simultaneously looking at other forms of energy to counter the Atoms for Peace campaign.

The combination of the possibility of uranium mining in WA and the proposal to build a local nuclear power plant led to an increase in anti-nuclear actions in the early 1970s. The movement was centred on CANE (Campaign Against Nuclear Energy), established in 1975. It was re-launched by Friends of the Earth in 1976 as a coalition 'totally opposed to the mining and export of Australian uranium for other than biomedical purposes', operating from the 'Environment Centre' (537 Wellington Street). CANE served as the Secretariat of the national Uranium Moratorium (later the Coalition for a Nuclear-free Australia) in 1981.

CANE membership included Women Against Uranium Mining, the Medical Association for the Prevention of War and the Indian Ocean Zone of Peace Coalition, and it encouraged the formation of local groups. Campaign strategies included protest marches, public meetings, boycotts, media events, photo exhibitions, plays, concerts, and a Nuclear-Free Zone initiative. In 1977 nine thousand people marched against the proposed Yeelirrie uranium mine. In 1979, following Sir Charles Court's announcement of plans to site a nuclear reactor at either Breton Bay or Wilbinga, Perth Town Hall was packed to hear speakers such as Peter Cook (Australian Labor Party senator 1983–2004) supporting 'No to a Nuclear WA'.

Many CANE activists moved to People for Nuclear Disarmament (PND WA), established in 1981 to plan a Palm Sunday march, when plans for a nuclear power plant were abandoned by the ALP Burke government in 1983. With the increase in US Navy nuclear-armed and powered warships to Fremantle, and Prime Minister Fraser's invitation to the US government to consider the naval base HMAS *Stirling* as a home port, public

People carrying banners during a nuclear disarmament march from Fremantle to Perth, April 1964. Courtesy West Australian *(AA2793A)*

opposition grew. In 1983 the PND organised a ten-thousand-strong rally in Fremantle, involving ALP Senators Ruth Coleman and Pat Giles. The first Peace Camp at Cockburn Sound was set up on Mothers' Day 1983.

PND had a strong affinity with university students, trade unions, the ALP and the Australian Democrats. At its 1984 national conference the ALP re-endorsed its three-mines policy and retained its platform of support for US bases and nuclear warships in Australian ports. In response to this a Nuclear Disarmament Party (NDP) was founded. While PND remained unaffiliated from the NDP, many people worked for both. CANE was absorbed into PND in May 1985. Anti-nuclear activist Jo Vallentine was elected as the first Senator for Nuclear Disarmament in the same year.

In 1998 a range of groups, including PND, formed the Anti-Uranium Coalition of Western Australia (AUCWA), successfully lobbying against a proposal to use WA to dispose of global nuclear waste. AUCWA later altered its name to the Anti-Nuclear Alliance of Western Australia (ANAWA). **David Worth**

See also: Conservation and environmentalism; Greens Party; Peace movement; Quakers

Further reading: J. Falk, *Global fission: the battle over nuclear power* (1982); D. Hutton and L. Connors, *A history of the Australian Environment Movement* (1999); B. Kearns (ed.), *Stepping out for peace: the history of CANE & PND (WA)* (2004)

Anti-smoking campaign The anti-smoking campaign was the first attempt by Western Australian health authorities to address a so-called 'lifestyle disease'. The Australian National Health and Medical Research Council (NHMRC) officially accepted the connection between lung cancer and smoking in 1957. From the early 1970s this knowledge was reflected in legislation and education programs. Medical professionals and the local Australian Council on Smoking and Health (ACOSH) played key roles in advocating change. Metropolitan trains, buses and ferries were declared smoke-free in 1974. In 1983 the Western Australian government increased retail tobacco licence fees and allocated $2 million per year for community anti-smoking education, including the Quit campaign. The *Tobacco Control Act 1990* included a phased-in ban on tobacco advertising, and increased penalties for the sale of tobacco to those under the age of eighteen. Healthway, the Western Australian Health Promotion Foundation, was established to fund research and provide grants to sporting and community organisations that promoted healthy lifestyles. The anti-smoking campaign broadened as knowledge of the dangers of passive smoking increased. Smoking in enclosed areas where meals were served and in certain sections of hotels and nightclubs, in shopping centres and cinemas was prohibited by the *Health (Smoking in Enclosed Public Places) Regulations* in 1999 and 2000. Through a series of gradual steps from 1 January 2005, all Western Australian hospitality venues were made 100 per cent smoke-free from 1 July 2006. Despite this progress, smoking in 2003 accounted for an average of 1,500 Western Australian

deaths and sales of tobacco products have not declined. **Sue Graham-Taylor**

See also: Public health

Anzac Cottage, 38 Kalgoorlie Street, Mount Hawthorn, is Western Australia's oldest First World War memorial, unique because it is a house. Organised by the Mount Hawthorn Progress Association, it was erected to commemorate the landing of Australian forces at Gallipoli on 25 April 1915. Seventy horse-drawn drays formed a half-mile procession in James Street on 5 February 1916 to cart donated materials to the cleared block. On Saturday, 12 February, Mount Hawthorn was awoken at 3.30 a.m. to a ringing bell and a town crier: 'Arise, arise! Anzac Cottage is to be built today!' Community spirit rallied over two hundred men to volunteer and dozens of women to serve hot meals as the men toiled. Thousands watched the spectacle of a house being built in one day. Private John Porter was chosen as the recipient of the four-room bungalow. A soldier in the 11th Battalion, wounded on 25 April 1915, Porter was the first soldier to return to the Mount Hawthorn district from the ill-fated campaign. Restored in 1995, heritage listed and the state headquarters of the Vietnam Veterans' Association, Anzac Cottage is now a museum. Every year Australia's last Anzac service of the day is held at the cottage, under a western sunset. **Valerie Everett**

See also: Anzac Day; Returned and Services League; War memorials
Further reading: Mount Hawthorn Progress Association (WA), *Anzac Cottage: souvenir of the monument erected at Mount Hawthorn, 1916* (1916)

Anzac Day On 1 November 1914, thirty-six transports, escorted by six warships, sailed from Albany to be joined at sea by two more

transports. On board were 30,000 men of the Australian and New Zealand Army Corps. On the last day of December a second convoy left Albany with a further 12,000 Anzacs. At dawn on 25 April 1915, most of these men began landing at a Gallipoli on the Turkish coast, at a position now named Anzac Cove. In the eight months of the Gallipoli campaign, 25,000 Australians died or suffered wounds and serious illness. An estimated 80 per cent of the New Zealand troops became casualties of war and disease. The following year, on 25 April, the people of both nations paused to remember their dead and wounded. Since 1916 there has been an annual Anzac parade through the streets of Perth that nowadays concludes with a non-denominational service on the Esplanade.

In 1919 the Western Australian parliament passed the *Anzac Day Act*, becoming the first state to proclaim 25 April as a public holiday of remembrance. Since the Second World War, Anzac Day, while retaining the spirit of Gallipoli, honours all Australian men and women who served in the military and associated services in Australia and overseas.

The first official capital city dawn service was at the Sydney Cenotaph in 1927. Perth followed in 1929 with a solemn dawn service at the WA State War Memorial in Kings Park. Services are now held throughout the state. What is believed to be the first rural dawn service in Australia was conducted at Albany in 1930 by a former army padre, the Rev. Arthur White.

Anzac Day has not always been marked by high attendances at the dawn service or by crowds flocking to the city to watch the march. It fell out of favour in the 1960s, in response to the unpopularity of the Vietnam War, only returning to favour in the mid 1990s, partly in response to the Australia Remembers year in 1995 that commemorated the fiftieth anniversary of the end of the Second World War. In recent years, many Australians, following a tradition that dates to 1925, have made a pilgrimage to Gallipoli

to attend the Anzac Day service and visit the war cemetery. Others travel to Albany where the troopships assembled in 1914. Here one can quietly reflect that this coastline was the last memory of Australia for tens of thousands of Anzacs who sleep in foreign lands and are remembered each year in the words of the poet, Laurence Binyon:

They shall not grow old, as we that are left grow old:
Age shall not weary them, nor the years condemn.
At the going down of the sun and in the morning
We will remember them.

Neville Green

See also: Anzac Cottage; First World War; Returned and Services League; Second World War; Vietnam War; Women, world wars
Further reading: C. Ayris, *Anzacs at Gallipoli* (1997); K. S. Inglis and J. Brazier, *Sacred places: war memorials in the Australian landscape* (1998); P. Sekuless and J. Rees, *Lest we forget: history of the Returned Services League 1916–1986* (1986); S. Welborn, *Bush heroes: a people, a place, a legend* (1982)

Aquaculture came to Western Australia in 1936, when a trout hatchery was built at Pemberton to stock nearby waterways with fish for anglers. In 1956 artificial cultivation and seeding of South Sea pearl oysters commenced near Broome and at Kuri Bay; over subsequent decades pearl farming developed into a sizeable and lucrative industry, with major centres of production including the Abrolhos and Montebello Islands, Shark Bay, Exmouth Gulf, and the Kimberley coastline. By the late 1970s small-scale raising of freshwater crayfish was under way in the South-West region, and by 1988 mussel farming had begun in Cockburn Sound. Then, in the 1990s, growing interest in the future prospects of commercial aquaculture prompted a sharp rise in both research and investment. With the support of the state

government, private enterprises conducted successful trials in the culture of a wide variety of fish (both freshwater and marine), molluscs and crustaceans, and several new industries became established as the decade progressed: barramundi at Lake Argyle, prawns at Derby, algae at Karratha and near Geraldton, finfish at Jurien Bay, and oysters and abalone at Albany. Comprehensive policies of regulation and management were also implemented from 1994, to provide for an ecologically sustainable expansion of Western Australian aquaculture into the twenty-first century. **Joseph Christensen**

See also: Acclimatisation; Environment; Fishing, commercial; Fishing, recreational; Pearling

Further reading: Aquaculture Development Advisory Council, *Aquaculture: development strategies for the industry in Western Australia* (1994); D. Berry, 'Finfish: aquaculture in Western Australia', *Journal of aquaculture*, 38, 4 (1997); Fisheries Department of Western Australia, *State of the fisheries report* (1998–2006)

Archaeology tells the story of the past through an investigation of material objects, ranging from tiny stone artifacts to large structures, and including artistic productions as well as the mundane remains of daily life. In Australia there are three main kinds of archaeological research: Aboriginal archaeology, which investigates the past history of Aboriginal people back to the earliest evidence for their presence in Australia; historical archaeology, which studies the relatively recent European past and includes the story of the relationships between Aboriginal people and the more recent settlers; and maritime archaeology, which concentrates on shipwrecks. All three kinds of archaeology have been, and are being, pursued in Western Australia, with historical archaeology being the newest branch to be established.

Research into the Indigenous occupation of Australia may well be the most important contribution archaeologists make, elucidating a past not recorded in written records. While some research was carried out on the distribution of certain kinds of artifacts, burial patterns and rock art in the early twentieth century, it was only with the invention of radiocarbon dating in 1949 that archaeologists could begin to make sense of a past without written records.

The appointment of professional archaeologists at The University of Western Australia and the Western Australian Museum in the early 1970s saw the beginning of professional modern research, as well as the teaching of archaeology and its dissemination to a wider public. Also important in furthering the discipline was the establishment of a legislative and administrative framework, with initial state legislation to protect important historic shipwrecks in 1964 and the *Aboriginal Heritage Act 1972 (WA).* A continuing failure, however, to provide comparable formal support for the state's European archaeological resource has not helped historical archaeology in this state. The establishment of a Chair in Archaeology (then called Prehistory) in 1983 by the then Australian Institute of Aboriginal Studies in Canberra saw the stage firmly set for an expansion in research and teaching which has continued to the present.

The discovery in the early 1970s of evidence for an Ice Age human presence in the cave site of Devil's Lair in the Margaret River region was significant in showing a human presence of an antiquity equal to that of the rest of Australia, dated to c. 30,000 years. In 1981 a chance discovery at Upper Swan Bridge, on the outskirts of Perth, led to artifacts in a riverbank deposit representing the oldest evidence for humans in Australia at that time at c. 38,000 years. Research at North West Cape in the early 1990s unearthed the oldest jewellery in Australia, and among the oldest in the world: a shell necklace dated to 34,000 years ago. More recently in the mid

to late 1990s, research in the south-west and south-central Kimberley has discovered sites of Aboriginal occupation that are over 40,000 years old, the oldest in Australia according to the radiocarbon dating technique. Such evidence is important in demonstrating the spread of modern humans across the globe.

Archaeologists, however, are not only interested in establishing the oldest. Research in WA has made many significant contributions to ongoing debates about the nature of human occupation in Australia, and Aboriginal adaptations to different and changing environments, as may be seen in the numerous scientific papers published in the last ten years. Archaeologists in WA work closely with relevant Aboriginal individuals and communities to ensure their research is relevant and welcome to Indigenous people.
Sandra Bowdler

See also: Aboriginal art, pre-contact; British maritime exploration; Dutch maritime exploration; Heritage; Shipwrecks
Further reading: C. Dortch, *Devil's lair, a study in prehistory* (1984); G. Henderson, *Maritime archaeology in Australia* (1986); H. Lourandos, *Continent of hunter-gatherers: new perspectives in Australian prehistory* (1997); S. O'Connor, *30,000 years of Aboriginal occupation: Kimberley, North West Australia* (1999)

Architectural profession The architectural profession in Western Australia, a diverse group with varying views and values, can best be understood through the aims and actions of the architectural associations established to represent the profession and further its interests. In a short entry such as this, only a few of the many significant architects can be mentioned.

In 1896 the first long-lasting professional institute, the West Australian Institute of Architects (WAIA) was established with George Temple Poole (1856–1934)

president, Michael Cavanagh (1860–1941) vice-president and J. Talbot Hobbs (1864–1938) treasurer. Its primary aims were the regulation of the profession through legislation to register architects; the promotion of architectural education; the encouragement of architectural competitions (especially for public buildings); and proffering advice to governments, public bodies and the public. All these aims remained central for the next century.

By the first decade of the twentieth century the WAIA had gained recognition as the voice of the architectural profession and the controlling authority on professional matters in WA. The passing of the state's 1921 *Architects' Act* and the establishment of the Architects' Board in 1922 were major achievements for the WAIA, and for president Alfred R. L. Wright (1861–1939), the first chairman of the Board. The successful 1920s were crowned with the granting of the Royal prefix and a change of name to the Royal Institute of Architects of Western Australia (RIAWA) in 1921.

After prolonged negotiation the first national professional association was established in 1929, becoming the Royal Australian Institute of Architects (RAIA) in 1930. Satisfied with its situation, the RIAWA chose not to affiliate with the national body. WA architects could now become members of the national or local institute, or both, an ultimately untenable situation. In 1943, after negotiations involving Harold Boas (1883–1980), Albert 'Paddy' Clare (1899–1975) and the RAIA, the RIAWA was disbanded and replaced by the WA Chapter of the RAIA. As a consequence the local profession became more national in outlook.

In 1939, mainly due to Reginald Summerhayes (1897–1965), the RIAWA began publication of *The Architect*, a journal promoting institute activities and WA architecture. It remains in publication.

Efforts to improve educational opportunities for architectural students bore fruit in

1946 with the establishment of the Department of Architecture at Perth Technical College (subsequently relocated at WAIT, now Curtin University). Graduates had a significant impact on the architectural profession during the second half of the twentieth century. During the 1950s and 1960s the influence of a younger generation of architects—Mervyn Parry (born 1913), Desmond Sands (1911–1999), and graduates of Perth Technical College, John Duncan (born 1928), Dennis Silver (born 1929), Geoffrey Summerhayes (born 1928) and others—all avid supporters of modern architecture, made itself felt in an innovative professional scene. The annual Home of the Year Award was established in 1961 in association with West Australian Newspapers and the first Architecture Week was held. Largely due to Chapter lobbying and financial support, the School of Architecture was established at The University of Western Australia in 1966, broadening educational opportunities.

During recent decades the architectural profession has been challenged from within and without. Within the profession there were demands for a greater diversity of views. The result was an active professional scene to which architectural academics such as Professor Geoffrey London (born 1948) and Professor Laurie Hegvold (born 1941) contributed by encouraging local studies and architectural exhibitions. An external challenge to the profession, to professional standards and practices, was the move by federal and state governments towards deregulation. During these difficult years of professional uncertainty, David Standen (born 1928) contributed greatly to sustaining the aspirations of the local architectural profession by articulating the professional and public benefits that result from vigorous and active state-based professional Chapters.

After lengthy review, the earlier Act was replaced by the *Architects' Act 2004* and *Architects' Regulations 2005* (WA). The outcome is positive for the architectural profession and the public. There is greater consumer response embodied in the new Act, but the fundamental aims of the earlier Act have been retained. The profession faced a serious challenge and survived.

Local architects Kenneth Duncan (1899–1983), Mervyn Parry (1913–), Eustace Cohen (1926–), Ronald Bodycoat (1935–), James Taylor (1937–), Nigel Shaw (1950–) and Warren Kerr (1951–) have served as national presidents of the RAIA. **Duncan Richards**

See also: Architecture
Further reading: J. M. Freeland, *The making of a profession: a history of the growth and work of the architectural institutes in Australia* (1971); D. Richards, *High hopes: the Institute of Architecture of Western Australia* (2003)

Architecture in Western Australia has usually been seen as imitating eastern states' patterns and examples but this denies the differences that have characterised architecture in the West since colonisation in 1829. Like Adelaide, WA was founded as a free settlement. However, against the logic of Colonel Light's Adelaide plan, the Swan River colony was more ad hoc. Not intended as a penal colony, it never displayed the grandeur of Sydney. Instead, Perth started as a modest low-scale settlement partly in accord with James Stirling's romantic vision, partly to secure the colony's agricultural prosperity. Settlement was not densely concentrated but was dispersed, resulting in a built landscape that is still distinctively flat and open. The picturesque qualities of Perth and Fremantle town settings were enhanced by judicious placing of key buildings on high ground and/or close to water. Perth's Courthouse (1837) and old Government House (1835, now demolished) and, terminating Fremantle's High Street, the Round House Gaol (1831) exemplify the potent relationships between

building, setting and authority. Designed by civil engineer Henry Reveley, the classical revivalism of these buildings further demonstrates their picturesque aspirations.

Initially the colonists in WA suffered standard hardships: a shortage of skilled labour and difficulty working local materials, notably hard timbers. As a consequence, early buildings were crude timber and bark shelters that commonly fell either to fire or termites. In some cases (Stirling's first 'temporary' residence, for example) buildings literally grew around the tents that had originally provided refuge. Perth's colonial history features many 'makeshift' buildings that became rather more permanent, often accommodating multiple purposes: the temporary 'rush church' (built 1829) was for seven years church, school, theatre and courthouse.

The year 1850 brought convicts, imperial funding and the partnership of James Manning (clerk-of-works) and Captain E. Y. W. Henderson (comptroller-general of convicts) to the struggling colony. Substantial buildings included the Fremantle Gaol (1851–58), Commissariat Stores and Customs House (1853, now Maritime Museum), the Asylum (1861–65, now Fremantle Arts Centre) and Henderson's new Government House in Perth (1859–64). Here, relatively poor quality but readily available limestone continued the development of a monolithic and unembellished architecture, first seen in the Round House, that dramatically modified Gothic Revival, Jacobean, Dutch and Classical stylistic influences of the Victorian period. With representative government in 1871 came the erection of government architect Richard Roach Jewell's Government Offices (1874): the decorated brickwork and eclectic mixing of architectural styles (especially Tudor, Gothic and Italianate) appear in Jewell's earlier Cloisters (1858), Pensioners' Barracks (1863–67, of which only the front arch remains) and Perth Town Hall (1867, with James Manning). Like the colony at that time, Jewell's buildings tend to be diminutive, delicate and nostalgically British.

Profound impact on the colony's development and architecture came in the high Victorian period of the 1890s with responsible government and the discovery of gold, which saw architects flock from the eastern colonies and Britain. The number of architects in WA increased from 12 (1893) to 102 (1897); Perth and rural centres were transformed from sedate colonial to ebullient Victorian towns. Coolgardie and Kalgoorlie materialised overnight; Kalgoorlie's Hannan Street alone sported twenty-five hotels. Indeed, capacious and ornate hotels such as Kalgoorlie's Palace (completed 1897) by Porter and Thomas, Perth, was one of the period's 'inventions'. The era also gave Perth its distinctive redbrick and orange tile appearance, seen in numerous houses as well as George Temple Poole's Lands Department (1896) and Observatory and Astronomer's Residence (1896). Government architect and inaugural president of the WA Institute of Architects (founded 1896), Poole deployed a range of international styles and confidently used Western Australia's ubiquitous brick. With him, Western Australia's architecture became more robust and erudite.

Eventually, the cohesive Victorian city of Perth was itself consumed by progress. Although Fremantle and many country towns, particularly York and Albany, are reasonably well-preserved, successive waves of twentieth-century development gradually reconstructed the capital city. Architectural activity increased in the 1950s as the momentous impact of two world wars, global depression and assisted migration inspired a massive need for schools and housing. Prefabricated systems were imported from Europe; high-rise building techniques and tower cranes arrived. This modernist period spawned a number of Perth's iconic towers, which not only replaced Victorian building stock, but themselves came under threat in the 1990s. The R&I Bank headquarters (Public Works Department) was

demolished to create a nineteenth-century heritage precinct; the curtain-walled MLC building (1956, Bates Smart McCutcheon with Hawkins & Sands) altered beyond recognition; and Council House (1959–62, Howlett & Bailey) only saved by loud minority protests (plus economic contingency). A 1960–62 group of buildings by the Public Works Department led by A. E. (Paddy) Clare were at the time among the most startlingly modernist in Australia, and have remained controversial. There was greater public acceptance of Dumas House in West Perth (1966) designed by architects Finn, Van Mens and Maidment, who won a national competition for the development of the site, having already established a body of work as project architects of the Public Works Department. Dumas House was heritage-listed soon after reaching the age of thirty years.

Mineral discoveries in the 1960s and 1970s cemented the push for progress; more of the nineteenth-century fabric disappeared under glass, steel and concrete. The sheer aluminium and glass towers of Cameron Chisholm and Nicol (CCN), such as Allendale Square (1976–77), are some of the most minimal of Australia's late modernist buildings. The state's optimism peaked with its holding of the 1962 Empire Games, for which were built athletic facilities including Perry Lakes Stadium and Beatty Park Swimming Pool, and Games village housing. In the 1980s, when the hosting of the America's Cup paralleled an explosion in entrepreneurial wealth, a new interest in heritage saw a different relationship between old and new: CCN's new R&I bank tower rose from behind the façade of the old Palace Hotel.

Each wave of renewal changed Perth's image and skyline: with the last, the city was visible from the suburbs and Rottnest Island. With the tallest towers occupying an east–west strip of only single-block depth the city is distinctively thin: almost invisible when approaching from either end, but proffering the famous postcard view (first sketched in the 1830s) from Kings Park. Such thinness contradicts the city's dominance over the state's administration, but is proportional to the city's extensive metropolitan area that sparsely veneers the coastal plain from Mandurah to Yanchep. Once unique to Perth (but later evident in Adelaide), the colony's layout from the start included suburban allotments, accompanied by speculative development. This was the forerunner of today's project housing that has popularised the so-called 'colonial' style and the 1890s redbrick/ orange tile palette. Architects have impacted little upon this market. Important exceptions include the prolific firm of Krantz & Sheldon, to whose innovative economical designs numerous blocks of flats were constructed between the 1930s and 1970s in the city and proximal suburbs. Paradoxically, the 1930s and 1940s surge in inner-city living, partly accommodated by Krantz & Sheldon, made Perth (the suburban capital) momentarily Australia's most urbanised city. Other notable achievements include the project houses produced in the 1960s by Corser Homes to the designs of architect Peter Overman; also the perfecting since the late 1970s of the recycled brick-and-timber aesthetic of Brian Klopper, whose buildings and clones now punctuate Fremantle's residential area.

A romantically inclined Modern architecture, represented by Krantz & Sheldon, Overman, Klopper and others including Marshall Clifton and R. J. Ferguson, contrasts markedly with the International Style advocated in houses by Geoff Summerhayes (1962) and Ross Chisholm (1963). The work of the former group has probably contributed more to a locally responsive architecture, exemplified by The University of Western Australia's Law School (1967, Ferguson with Professor Gordon Stephenson) and Guild Building (1971, Ferguson, Clifton and Roger Johnson). A sense of temporariness still characterises Perth's built landscape as the buildings of one generation are swept away by the waves of demolition and development accompanying the state's shifting economic fortunes. **Kate Hislop**

See also: Architectural profession; Empire and Commonwealth Games; Foundation and early settlement; Perth; Suburban development; Town planning
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); G. London, *A short history of Perth architecture* (2002); I. Molyneux, *Looking around Perth: a guide to the architecture of Perth and surrounding towns* (1981); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979); D. Richards, *High hopes: the Institute of Architecture of Western Australia* (2003)

Armistice Day News of the armistice that ended the First World War came late to Western Australia, arriving at 9 p.m. on Monday 11 November 1918. Even so, boisterous crowds quickly gathered for noisy celebrations. The next day, businesses, shops and schools were closed and churches held thanksgiving services. Parades—in Perth featuring schoolchildren, returned soldiers and railway workers—took place in most centres. Many of the parades included exhibitions of strong anti-German sentiment, notably in Northam, where the mayor burnt a large dead pig representing the ex-Kaiser. Even the Anglican Bishop Riley did not desist from mentioning German atrocities. The speeches of Riley and other dignitaries, including the mayor of Perth, centred on Western Australian patriotism and the state's links with Britain. The Union Jack featured prominently among the crowds and songs such as 'Rule Britannia' were sung. The celebrations did not inspire accord in all hearts, however. The day ended with a battle between rival waterside workers' unions in High Street, Fremantle. The *Westralian Worker* reminded its readers that, while the world war might be over, the class war was not. Further victory celebrations took place in July 1919, after most of the AIF had returned to Australia.

Today, there is one minute's silence at 11 a.m. on 11 November to remember the sacrifice of those who have died for Australia in wars and conflicts. The Returned and Services League has sold artificial poppies for remembrance in the lead-up to 11 November since 1921. Armistice Day was renamed Remembrance Day after the Second World War. **Bobbie Oliver**

See also: First World War; Returned and Services League; Second World War
Further reading: J. Robinson and M. McNair, 'Armistice Day, 1918', in L. Layman and T. Stannage (eds), *Celebrations in Western Australian history: Studies in WA History*, 10 (1989)

Army In the earliest years of European settlement in Western Australia the army accompanied and supported colonisers. In response to fears of French interest in the region, Major Lockyer of the 57th Regiment with a detachment of the 39th Foot landed at King George Sound from Sydney on Christmas Day 1826 with instructions to found a settlement there. On 8 June 1829, fifty-seven officers and men of the British 63rd Regiment, under Captain F. C. Irwin, landed from HMS *Sulphur* at Fremantle in support of Lieutenant-Governor James Stirling's expedition to found the Swan River colony. A large number of troops from this regiment were present at the foundation of the city of Perth on 12 August 1829. The contingent was relieved in 1833 by two companies of the 21st Regiment; they in turn were relieved in 1840 by a similar force of the 51st Regiment. Later reliefs comprised only one company of the 99th and finally a company of the 12th Regiment.

Royal Engineer officers and detachments of Royal Sappers and Miners arrived on various dates, the total of the latter at one time exceeding one hundred rank and file. They were mainly used in superintending convict work gangs. The whole of the regular force formed

a portion of the garrison of the Australian colonies, headquarters being at various times in Sydney, Melbourne or New Zealand.

Additionally, between 1850 and 1868 more than 1,100 convict pensioner guards came to WA. At one time over six hundred of them, mostly former soldiers of the British Army, assisted line companies in various garrison duties and finally assumed all responsibilities when the last of the Queen's troops left Fremantle for Hobart on 3 March 1863. They held their last parade on 31 March 1887.

In 1861 an '*Ordinance to organise and establish a Volunteer Force in Western Australia*' was passed. The first Metropolitan Volunteer Rifles was formed in Perth on 13 September 1861, while another was also formed simultaneously at Fremantle. Others, such as the Pinjarra Mounted Rifles, were soon to follow.

The Legislative Council passed a comprehensive measure in 1883 that provided for better discipline, organisation and administration of the forces and placing it, with certain reservations, under the military law of Great Britain in time of war.

The *Defence Forces Act* of 1894 enlarged the scope of the previous legislation and provided for maintenance and discipline of the permanent force at Albany and the creation of a militia. In 1895 the government introduced a partially paid system in order to improve efficiency. Rumours of war in mid 1899 were largely instrumental in adding to the strength of the various corps.

Following the outbreak of the Boer War on 11 October 1899, nine contingents of Western Australians served in South Africa between 1899 and 1902. Rifle clubs had been widely prevalent throughout the colony, and under the first *Commonwealth Defence Act* of 1903, members were subjected to enrolment and military discipline as reserves in the military forces.

Fear of the enemies of Great Britain gave urgency to the desire of Australians to protect themselves. The Act of 1903 provided that the services of every able-bodied male between eighteen and sixty years would be made available. In 1908, after an advisory visit to Australia by Lord Kitchener, a new *Defence Act* was passed by the Commonwealth. This introduced a compulsory cadet training scheme. Universal Military Training was introduced in 1911.

When Britain declared war on Germany on 4 August 1914 the first WA units began training at Blackboy Hill on the eastern outskirts of Perth. Subsequently the substantially WA-raised 11th, 16th and 28th infantry battalions, together with the 10th Light Horse Regiment, were to serve at Gallipoli. Later, on the Western Front in France and Belgium, these units were joined by the newly raised 32nd, 44th, 48th and 51st infantry battalions, each comprising a large proportion of Western Australians. Many personnel also served in supporting artillery units. The 10th Light Horse Regiment went on to serve in Palestine and Syria until just after the entry into Damascus early in October 1918. Lawrence of Arabia was not the first into Damascus; it was in fact a scout troop of the Western Australian 10th Light Horse Regiment.

On the outbreak of the Second World War, the 2/11th Australian Infantry Battalion was formed. Others, such as the 2/16th and 2/28th, soon followed. After service in North Africa, Palestine and Syria, most units eventually returned to Australia for service in the South-West Pacific Theatre, against the Japanese threat in the region.

In the period following the end of the Second World War, fear of Communist insurgency prompted a range of countermeasures in the South-East Asian region. Western Australian military personnel were involved in Malaya, Borneo, Korea and Vietnam from 1950 until 1972. In more recent times WA army personnel have participated in peacekeeping operations in countries such as Somalia and Kuwait; additionally there have been active roles in the liberation of East

Timor and in the second Gulf War, many of them by the Australian Special Air Services Regiment based in Swanbourne, WA.

Among the army reserve units operating in 2005, the 11/28th and 16th Battalions, Royal Western Australian Regiment, and the 10th Light Horse Regiment, based in Karrakatta, carry on the traditions of their forefathers. **Bill Edgar**

See also: Boer War; Cadets, army; Colonial volunteers; Conscription; First World War; Gulf Wars; Korean War; Malayan Campaign; Military camps; Reservists; Second World War; Vietnam War; Women's Land Army; Women, world wars

Further reading: J. S. Battye (ed.), *The Cyclopedia of Western Australia: an historical and commercial review: descriptive and biographical facts, figures and illustrations: an epitome of progress*, (1912, 1985); J. Grant, *Vigilans* (1998); W. Olson, *Gallipoli: the Western Australian story* (2006)

Art collections The current prominence of a number of corporate and private art collections in Western Australia would seem to suggest an extended history of such art collections in the state, however, such developments are comparatively recent. Until the early 1980s there was little in the way of substantial corporate art collections, and private collections tended to be personal and domestic in their focus. Even the state collection held by the Art Gallery of WA, which was established at the end of the nineteenth century, only began to grow substantially in the 1950s (following the separation of the then WA Art Gallery from the State Library and Museum).

Until the 1890s there had been very little visual arts activity in the colony, and there is no record of any art major collections being established or brought here. Following the establishment of the state gallery in 1895 there was considerable collecting activity, though this was followed by a very marked

decline from 1911 when Dr J. S. Battye became the director of the combined Public Library, Museum and Art Gallery. One of their very few sources of money for collection development between the wars came from funds bequeathed by Sir John Winthrop Hackett, who had been an early trustee of the Museum and Gallery. It was only after the Second World War, after four lean decades, that the development of the state art collection began again in earnest. Also influential during this period was Sir Claude Hotchin, a member of the Art Gallery Board and a prominent businessman. Beginning in the 1950s, he made important gifts of artworks to fourteen country towns and shires, as well as to various institutions in Perth, exerting considerable influence on the establishment and content of numerous public collections.

Following their inception, the universities and major tertiary teaching institutions all developed substantial art collections—often for their educational value as well as decorative significance. While much of this activity has been postwar, The University of Western Australia made initial steps in this direction in 1927, when Sir Walter Murdoch purchased various works of art and art reproductions in Europe on the university's behalf, though there were no further major acquisitions until 1948 when it received the first of a series of major gifts to the university collection. It was only with increased immigration postwar, the rapid economic growth leading into the 1980s, growing exposure to wider cultural experiences, and an increasing recognition of the wider value of an art collection, that corporate and large private art collections began to develop in WA. The Stokes Collection, the Holmes à Court Collection, the Wesfarmers Collection and the Cruthers Collection, all of which have their early roots in the 1970s, have high levels of public recognition now, and are important for the range and value of their holdings.

The pattern throughout the western world of a strong nexus between the accumulation

of large-scale private wealth, the development of substantial private collections and the growth and development of public art museums and collections, can readily be seen in the development of both public and private collections in WA. Over the last two decades, however, as private collecting has grown, government and public funding for collection development in public art museums in WA has dropped sharply. One result is that the large private collections and collectors are increasingly important and influential regarding the content and even direction of public collections.

Most art collections in WA remain primarily focused on art produced here, with a somewhat secondary focus on Australian art more widely. There is little in any of the public collections (except for that of the Art Gallery of WA) or the larger private collections (the Stokes Collection is an exception) from outside Australia. The relative lack in major art collections here of international, or non-Australian, art suggests a continuing conservative and parochial approach to the arts and culture at both private and public levels, perhaps exacerbated by continuing feelings of isolation. Then, too, there has been little real engagement with contemporary international developments, including not just developments in the visual arts but also following the complex contemporary interplay between culture, migration and trade and commerce.

It was only with strong economic growth, increasing population and a developing public interest in culture that art collections in WA began to develop strongly. It remains to be seen whether that can be extended further, and collections here can engage more widely, both internationally and in the range of their aesthetic and artistic interests. **John Barrett-Lennard**

See also: Art, colonial; Art, contemporary; Art galleries; Art Gallery of WA; Art, modern; Art patronage; Isolation

Further reading: B. Chapman, *The colonial eye: a topographical and artistic record of the life and landscape of Western Australia, 1798–1914* (1979); L. Klepac, 'A glance at the history of the Western Australian collection', *Art and Australia*, 16, 4 (1979); A. Vizents, 'The Hall of Mirrors: the Art Gallery of Western Australia 1950–1957', in D. Bromfield (ed.), *Essays on art and architecture in Western Australia* (1988)

Art, colonial Colonial art generally refers to art produced by non-Indigenous people from the founding of the Swan River colony in 1829 to the cessation of the formal colony and Federation in 1901. However, this entry extends to 1929, the centenary year of the founding of the colony.

Before white settlement the shores of Western Australia were charted and visualised by Dutch, French and British navigators. These pre-colonial visual records of WA were generally predicated on an empirical approach emerging from the traditions of naval and military draughtsmanship and scientific illustration. From at least 1697 when the Dutch explorer Willem de Vlamingh visited the west coast, artists or draughtsmen accompanying voyages of discovery made coastal profiles, landscape sketches or scientific illustrations of the plants and animals of the region. Heightened interest in the strategic and commercial possibilities of the western portion of Australia in the late eighteenth and early nineteenth centuries saw an increasing visual documentation of the landscape.

With the establishment of a small military settlement at King George Sound in 1826 and a few years later the founding of the Swan River colony in 1829, people from all walks of life contributed to the visualisation of WA. Dominant aesthetic concerns were the accurate rendering of the landscape using a combination of British picturesque and topographic landscape traditions. Artists such

as Frederick Garling, who accompanied Captain James Stirling's exploration of the Swan River area in 1827, made observations of the environment in watercolour sketches, maps, charts and surveys. Scientific draughtsmen recorded aspects of the flora and fauna as well as detailed ethnographic studies of Indigenous people and their artefacts.

Settlers, mostly from Britain, illustrated features of their daily lives and experiences in establishing homes and communities in the new colony. Women were important contributors to this pictorial record. As watercolour painting was considered a refined accomplishment for both nineteenth-century middle-class women and men, many of the earliest artistic records were made in watercolour. While the history of the visual arts in WA lacked the outstanding contributions made by convict and colonial artists in the eastern colonies, amateur artists such as Isaac Scott Nind, Horace Samson, Thomas Turner, Jane Currie and Louisa Clifton made important pictorial records of the developing colony and its social life.

With the introduction of convicts in 1850, WA acquired some of its most interesting early artists. James Walsh, transported to the colony for forgery, worked in the Perth and New Norcia areas in the late 1850s, while W. B. Benson, also possibly an ex-convict, was an itinerant artist of the 1860s who produced paintings of settlers' homesteads.

Although the art and culture of Indigenous Western Australians during this period was largely unknown or unknowable by Europeans, aspects of Indigenous life are visible in many early colonial artworks. Indigenous people are represented as silent and passive observers of the spread of European settlement and their culture is largely rendered invisible. Landscape images by European artists reinforce a perception of the naturalness of British annexation of the land and harmonious progress of the colony despite many violent conflicts between European and Indigenous peoples.

In contrast to the colonies of New South Wales, Tasmania and, to a lesser extent, that of South Australia, for much of the nineteenth century WA lacked the patronage, clientele and cultural institutions to support major portrait or landscape painters. The establishment of the Swan River Mechanics' Institute in 1851 indicated a community desire for cultural organisations, but it wasn't until 1895 that a Museum and Art Gallery were founded. Artists working in the second half of the century mainly produced watercolours and pencil sketches of their immediate environs. Principal among these was Henry Prinsep, an accomplished illustrator, artist and photographer who was trained in London and arrived in WA in 1866. A group of women in the late 1880s, including Margaret Forrest and visiting artists Ellis Rowan and the British painter Marianne North, merged aesthetic concerns with scientific accuracy to illustrate the remarkable range of wildflowers of WA.

Following the discovery of gold in the late 1880s the small WA art community benefited from the influx of migrants. Lacking regular exhibition venues and artists' societies, an art exhibition organised by the Wilgie Sketch Club in 1890 signalled the shift towards more formal structures for artistic activity. This was followed in 1895 with the founding of the WA Society of Arts that held regular exhibitions throughout the period. The establishment of an art department in 1899 at the Technical School and the appointment of Frederick M. Williams as the first art teacher, stimulated local activity in the visual arts. Williams, together with George Pitt Morison who arrived in 1894, had substantial experience of European impressionist techniques learned in the arts schools and artists' camps around Melbourne in the early 1890s. However, the dominant figure of the late nineteenth century was British-born artist James W. R. Linton who arrived in WA in 1896. Linton was trained in the British Arts and Crafts

tradition and became an influential painter, teacher and craftworker. He succeeded F. M. Williams as art instructor at Perth Technical School in 1902 and taught there until 1931.

Although the Technical School had a great influence in training local artists such as Flora Landells and Kathleen O'Connor, from 1900 through to 1929 the main contributors to the Western Australian art scene generally remained those artists trained outside the state. In particular, Henri van Raalte and A. B. Webb fostered the development of printmaking in Perth, van Raalte through his sensitive etchings and drypoints of South-West landscapes and Webb by his innovative use of colour woodcuts.

The development of the visual arts in WA during the colonial period and early twentieth century is dominated by British aesthetic and cultural approaches to art-making. Empirical-based traditions of topographic and scientific draughtsmanship as well as the picturesque and Arts and Crafts styles were mediated through both semi-professional and amateur artists. Although lacking the contribution of major professional colonial artists as in the other colonies, Western Australian colonial art documents the development of the colony and the relationship between Indigenous and non-Indigenous people as well as the imposition of European aesthetic models on the local landscape. **Janda Gooding**

See also: Aboriginal art, Indigenous perspectives; Art education; Art, modern; Convict legacy; Craft practitioners; Design and designers; Foundation and early settlement
Further reading: B. Chapman, *The colonial eye: a topographical and artistic record of the life and landscape of Western Australia, 1798—1914* (1979); J. Gooding, 'Presence and absence in the Western Australian landscape', *Westerly*, 44, 3 (1999); J. Gooding, 'Sights un-seen', in B. Croft, with J. Gooding, *South west central: Indigenous art from south Western Australia 1833–2002* (2003)

Art, contemporary On 20 February 1962, Perth earned its international epithet 'The City of Light' when its citizens agreed to leave their household lights burning to welcome astronaut John Glenn, orbiting 200 kilometres above. Later in the same year the international spotlight was again focused on the city when the Duke of Edinburgh opened the Seventh British Empire and Commonwealth Games on 22 November. With their confidence fuelled by the mining boom, Western Australians began looking beyond their state borders and with the arrival of television in 1959 they were also able to see themselves as players on that international stage.

Although the market for local art was improving, Guy Grey-Smith (1916–1981) and Howard Taylor (1918–1991) initially supplemented their practice by teaching at the Rehabilitation Hospital and Perth Technical School & Western Australian Institute of Technology (WAIT) respectively. However, when Taylor won the major commissions to produce public sculptures for many of the new buildings along St Georges Terrace and the new Passenger Terminal in Fremantle he was able to redirect his practice toward more sculptural concerns. *Cyclops*, installed outside the ANZ Bank Building in St Georges Terrace in 1965, and *The Black Stump*, installed outside the AMP Building a decade later, combined his interest in producing site-specific works with his commitment to engaging a general audience. Grey-Smith also produced studio ceramics, his wife Helen (born 1916) created printed fabrics, and they, along with local jeweller Geoffrey Allen (1924–2000) and furniture designer David Foulkes Taylor (1929–1966) were commissioned to produce the interior fittings for Geoffrey Howlett's masterpiece of the Modern Movement, Council House, which was opened by Queen Elizabeth II in 1963.

This changing sense of internationalism was given an additional fillip when George Haynes (born 1939) arrived in the state in

1963, bringing with him direct experience of the emerging Swinging Sixties in London. After attending the Chelsea School of Art, he was well-versed in the Camden Town School tradition and attuned to the emerging Pop sensibility pioneered by Allen Jones, R. B. Kitaj and David Hockney. Contact with the intense light and colour of Western Australia was a catalyst for his close tonal explorations of the landscape, which he rendered on large canvases using newly available acrylic paint to capture the intensity of the visual experience. Through his contact with students Tim Burns, Jeremy Kirwan-Ward, Ben Joel and Nigel Hewitt at the Perth Technical School and the newly established WAIT, he became a central figure in local practice and influential in the construction of a pervasive image of the local environment. Meanwhile, Robert Juniper (born 1929) continued to build his reputation through exhibitions at Skinner Galleries before it closed in 1975 and through his success in the Helena Rubenstein Portrait Prize in 1976, the Wynne Prize for Landscape 1980 and inclusion in touring exhibitions to the Whitechapel Gallery in London in 1961 and the Tate in 1964.

By the mid seventies a group of young artists began returning to Perth from study overseas. Disappointed with the lack of venues to show contemporary art, they established Praxis, an artist's cooperative initially based in Murray Mews in the City and later in Fremantle. Praxis became the centre for experimental art and launched the careers of Theo Koning (born 1950) and Mark Grey-Smith (born 1950) among many others. The move to Fremantle brought national attention and the gallery became a focus for artists with a political agenda and those associated with the emerging women's movement. By the late eighties, Praxis was reconfigured as the Perth Institute of Contemporary Art (PICA) and moved back to Perth to the Old Perth Boys' School next to the Art Gallery of Western Australia. Under the direction of John Barrett-Lennard, Noel Sheridan and

Sarah Miller, PICA has become a major centre for innovative art practice in the state.

Experimenting with new media, Miriam Stannage (born 1939), Nola Farman (born 1939) and Carol Rudyard (born 1922) created works with photography, projected imagery and installation that broke new ground and opened up the field of practice for younger artists. Stannage's *Homage to Sight* series of processed photographs, Rudyard's sound and image installations based on domestic objects, and Farman's *Lift Project* were the catalyst for continued experimentation over the next quarter of a century that led eventually to the establishment of the Biennale of Electronic Arts Perth (BEAP), which has provided an international showcase for experimental electronic art.

Exploration of more traditional art practices ran parallel to these new media. Since his arrival in Perth in 1972, Brian Blanchflower (born 1939) has focused his attention on the night sky, and in his continuing series of *Canopy* paintings he presents a portal into the infinite that achieves his aim of effectively communicating complex ideas and engageing the viewer in a transformative experience. Karl Wiebke (born 1944) and Alex Spremberg (born 1950), two new arrivals from Germany in the early 1980s, also energised local practice through their rigorous examination of the process of painting. Wiebke built up elaborate surfaces with the slow accretion of paint to a wooden surface, until the painting itself represented an object that had evolved over time and was designed by its own history.

In the last decades of the twentieth century Western Australian sculptors came to the fore. One loose grouping associated with the Gomboc Gallery and including Stuart Elliot (born 1953), Tony Jones (born 1944) and Ron Gomboc (born 1947) developed a figurative practice influenced by local artist Hans Arkeveld (born 1942) that addressed social issues and developed personal narratives that intertwined with local histories. Others looked more broadly at a range of sculptural

practices that included installation and video as well as object-making. Rodney Glick (born 1961) and James Angus (born 1970) have developed national and international reputations including solo exhibitions at the Art Gallery of Western Australia and the Museum of Contemporary Art in Sydney.

Into the new millennium, Perth is a very different place from the small country town of forty years before. A vibrant public gallery sector, four post-secondary art schools and a proliferation of commercial galleries support an ever-increasing number of artists working across a diverse range of media. **Ted Snell**

See also: Art, colonial; Art, modern
Further reading: P. Duffy (ed.) *The Foulkes Taylor years: invitation exhibition* (1982); T. Snell, *Howard Taylor: forest figure* (1995)

Art criticism The history of art criticism in Western Australia is embedded in the history of art practice, training and marketing. Initially, like the artworks being commented on, it was concerned with validating and celebrating the cultural values of the colonial era, emphasising loyalty to empire and its aesthetic and moral value systems. Not until the 1960s, with the appearance of *The Critic* (1961–70), *Westerly* (1956–present), and later with *Praxis M* (1983–91), could the state be said to have a truly critical and interrogatory style of art writing.

Early newspaper reviews of the relatively infrequent mixed exhibitions tended to be anonymous and laudatory, manifested by the view of one critic, educationalist and art commentator Charles Greenlaw Hamilton (1874–1967), who said he thought that 'criticism should be like rain—it should be gentle enough to nourish the seed of art without destroying its roots'. The anonymity of authorship was often thinly disguised: C. G. Hamilton's writing was identified by his initials, as was the writing of George Benson (1886–1960) and William Garden Murdoch

(1901–1950). In the latter part of the nineteenth century through to the 1920s, *The West Australian* ran a regular column called '*Vigilans et Audax*', which dealt with issues of government and local and national affairs but also covered art events such as annual art society exhibitions. This column was written by a succession of staff writers. One critic, Leslie Rees, used the title Hermes for his reviews in the *Black Swan* (1919–49).

The myopic view that everything in the West was the best can be seen in much art writing throughout the twentieth century, and is often demonstrated by local writers and artists taking a positive, even celebratory, attitude to isolation. By contrast, the editorial of the first edition of *The Critic* (11 January 1961) made the promise, which was fortnightly fulfilled throughout the rest of the decade, that it would 'let loose wild cat and pedigree critical talent among the pigeons'. The critical talent produced distinguished writing by Tom Gibbons, Patrick Hutchings and Alan Edwards, all of whom were then associated with The University of Western Australia. This journal lifted the game of local art writing and prepared the way for the challenging reviewing in the *West Australian* of 1987–2001 by David Bromfield, and the experimental art-orientated writings in *Praxis M*, as well as an increase of art exhibition catalogue writing which followed the huge increase in the number of exhibiting spaces within the commercial, alternative and institutional gallery scene. **Neville Weston**

See also: Art, colonial; Art, contemporary; Art education; Art exhibitions; Art galleries; Art Gallery of WA; Art, modern; Art prizes and awards; Isolation; Journals and magazines; Public art
Further reading: D. Erickson et al., *Art and design in Western Australia, Perth technical College, 1900–2000* (2000); J. Gooding, *Western Australian Art and Artists 1900–1950* (1987); T. Snell, *Cinderella on the Beach: a sourcebook of Western Australia's Visual Culture* (1991)

Art Deco in Western Australia manifested primarily in architecture with some associated sculpture and murals and a small amount of ceramics and general artworks. The 1930s goldmining boom provided the impetus for a spate of buildings reflecting the state's progressive ideals and a desire for the new and modern. Some Perth architects, including Harold Boas, Reginald Summerhayes, William Leighton, William Bennett and Marshall Clifton, were designing buildings incorporating the latest architectural styling. Symbols of aspirations to modernism in the era between the Depression and the Second World War, most were embellished with geometric or stylised motifs. For example, Perth's first 'skyscraper', the Gledden Building (1937), incorporated artworks featuring local flora and fauna, mixing stylised modernity with publicly admired ornament.

Long neglected by architectural historians, the term Art Deco obtained currency only in the mid 1960s, being derived from the 1925 Paris Exposition des arts décoratifs. Gradually the early decorated Art Deco style became influenced by the purist modernism of the Bauhaus together with the infatuation with streamlining from America, and metamorphosed into the more popularised and economical 'streamline moderne' mode.

Later, changing values fostered greater interest in societal attitudes of the decades between the wars, and the Art Deco Society of Western Australia, founded by Vyonne Geneve in 1987, raised local awareness of the heritage value of art and architecture of the era. The society harnessed community concern at the destruction of the state's distinctive 1930s-built heritage, including the Emu Brewery and Karrakatta Crematorium buildings (both 1937). Battles to save the integrity of others continue.

Since the Second World Congress on Art Deco, Perth 1993, these buildings are now recognised as significant examples of regional variations of a genre. Many have attained state heritage registration. One of the popular public buildings to gain international recognition was the 1937-built Raffles Hotel, Applecross. The designer, William Bennett, a prolific and fashionable architect of the 1930s, was responsible for the Town Hall and Picture Gardens at regional Beverley (1938) and, with William Leighton, the well-patronised Regal Theatre, Subiaco (1938).

Leighton's innovative indoor/outdoor picture gardens in suburban Perth, including the Windsor Theatre, Nedlands, form part of the largest group of Art Deco cinemas still operational in any city in Australia. In the process of accommodating the new technologies and functional cinema requirements, Leighton's unique movie houses broke new ground and were central to the introduction of 'modern' ideas and style to Western Australia. **Vyonne Geneve**

See also: Architecture; Art, modern
Further reading: D. Bromfield (ed.), *Essays on art and architecture in Western Australia* (1988); M. Ferson & M. Nilsson (eds), *Art deco in Australia: sunrise over the Pacific* (2001); V. Geneve, 'Versions of modernism in Western Australian cinema design 1930–1940', Masters thesis, UWA (1991)

Art education Perth Technical College opened in 1900 in the wake of the economic boom precipitated by the discovery of gold. Alex Purdie, the first Director of the College, acknowledged the practical realities of offering 'all branches of art which are likely to assist trades or professions', and this focus was reflected in the general education system where freehand and geometrical drawing were encouraged.

It was an approach that continued well into the 1960s when the influence of Herbert Read and Viktor Lowenfeld began to infiltrate the teachers' colleges. Education through the arts and a belief in the benefits of individual creativity led to the visual arts becoming part of the curriculum in primary schools. The

influence of Read and Lowenfeld remained the dominant influence on art education until the early 1990s, when the Art Education Association of Western Australia organised annual conferences attracting leading figures such as Elliot Eisner, Laura Chapman and Al Hurwitz. Their books re-energised teachers and transformed the curriculum in secondary and primary schools.

At the post-secondary level the new Western Australian Institute of Technology (WAIT) opened in 1965 and by 1967 was offering an alternative to the TAFE Art and Design curriculum. TAFE continued to provide courses at James Street, the Claremont School of Art and other campuses throughout the state until 1999, when its Fine Art and Design courses were consolidated at Central Metropolitan College of TAFE following the completion of the new Fine Art Building in Aberdeen Street.

A greater focus on the theoretical underpinnings of studio practice led to the award of the first Bachelor of Arts Degrees at WAIT (now Curtin University of Technology) in 1979. A similar program was established at the Western Australian College of Advanced Education (WACAE, now Edith Cowan University), and The University of Western Australia offered a studio-based undergraduate program in 1993. In 1981 the first postgraduate students completed their Graduate Diploma in Art and Design at WAIT, prompting an expansion in postgraduate offerings at all three institutions. **Ted Snell**

See also: Design and designers
Further reading: D. Erickson (ed.), *Art and design in Western Australia: Perth Technical College 1900–2000* (2000); A. Gray, *Line, light and shadow: James W. R. Linton, painter, craftsman, teacher* (1986)

Art exhibitions Major visiting art exhibitions at the Art Gallery of Western Australia have done much to counter cultural isolation from

1936. Prior to that, exhibitions showcasing local art resulted from artists' grouping together in societies, and from the initiative of private galleries. The first Wilgie Sketching Club exhibition, in 1890, evolved into the West Australian Society of Arts (WASA) in 1896, adapting the Wilgie's critical-review process for membership entry, painting excursions and exhibiting, set out in *The West Australian* in 1889 by Bernard Woodward. After spasmodic shows, the WASA exhibited from 1901–13 at Hamburg Chambers, Perth Technical College and St George's Hall, then till 1931 in the Industries Hall, then in Boans Department Store. Exhibitions stopped between 1938–48, re-commencing in Newspaper House Art Gallery until the mid 1950s. In 1933 the Perth Society of Artists (PSA) split from the WASA. The PSA held annual exhibitions until 1937 then up to four shows annually at Newspaper House Art Gallery, the Claude Hotchin Gallery, the Adult Education Rooms, and the Skinner Galleries from 1958 to the mid 1960s.

International exhibitions at the Art Gallery of WA from 1936 were selected by the British Empire Loan Art Collection; UNESCO also mounted exhibitions of facsimiles, introducing some range in cultural diversity. From 1957 English patronage continued through the English Art Loan and Exhibition Society. Exhibitions received in Perth depended on the consensual decision of Australia's state gallery directors, restricting local choice. From 1936–60, of nearly thirty exhibitions of British art or artifacts, six were of British royal regalia or portraiture. The largest audience to this day, proportionate to population (222,000 in Perth in 1928) was the 105,281 attendance of the 1928 exhibition of Captain William Longstaff's *The Ghosts of Menin Gate.* The memorial Menin Gate became a victory symbol of the First World War Western Front battles of Flanders, Ypres and Passchendaele. Attendances signified profound emotional links to Britain and collective mourning for Australians lost at war.

The 1936 major exhibition 'Contemporary British Art, c. 1919–39' attracted an attendance of 17,500. Its surrealist content was widely and critically publicised and probably inspired Workers' Art Guild member Herbert McClintock's experimental surrealism in his 1940 exhibition at Newspaper House. While individual Workers' Art Guild members exhibited in modernist style, no group exhibition is recorded.

The strongest international cultural influences after Britain, indicated by the numbers of travelling exhibitions received between 1955–75, were America and France, then Germany and Japan, pointing to a natural interest in allies and a curiosity about, and diplomatic expediency in mending bonds with former enemies. From 1954–56, five exhibitions of war art were held, just as late modernist artists such as Guy Grey-Smith, Tom Gibbons, Robert Juniper and Brian McKay were emerging. They considered the most influential travelling exhibitions were 'French Painting Today' (1954), 'Italian Art of the 20th Century' (1956), and 'Contemporary Canadian Painters' (1957).

Indifference to the art of near neighbours, including South-East Asia and New Zealand, mirrored indifference to Indigenous culture before the mid twentieth century. Two exhibitions of Aboriginal art were held prior to 1958. The first, 'Kimberley Aboriginal Paintings', in 1939, was curated by and allied to the German Ethnological Expedition to the Kimberley. From the 1970s heightened interest in Aboriginal art attracted wider audience response than local and national artists. The Art of the Western Desert and Aboriginal Art from the Permanent Collection, in 1979, drew 139,108 viewers, whereas the John Glover retrospective in 1978 attracted 6,417 viewers and the 1981 Tribute to Guy Grey-Smith drew 20,182.

Since 1975 three milestone research survey exhibitions of Western Australian art were The Colonial Eye (1979, Art Gallery of WA); The Foulkes Taylor Years (1982, Curtin University of Technology); Aspects of Perth Modernism 1929–1942 (1986, UWA Undercroft), and Western Australian Art and Artists 1900–1950 (1987, Art Gallery of WA).

Attendances at blockbuster shows at the Art Gallery of WA, such as Golden Summers in 1986 (83,180), and Monet & Japan in 2002, suggest that despite television, the Internet, ease of travel and exposure to art, and notwithstanding increased costs and logistical complexity, artists and movements that showcase familiar national icons draw large audiences. **Christine Sharkey**

See also: Art collections; Art, colonial; Art, contemporary; Art galleries; Art Gallery of WA; Art, modern

Further reading: D. Bromfield (ed.) *Aspects of Perth modernism, 1929–1942* (1986); P. Duffy (ed.), *The Foulkes Taylor Years: invitation exhibition* (1982); J. Gooding, *Western Australian art and artists 1900–1950* (1987)

Art galleries Western Australian artists had great difficulty showing their work locally in anything like a professional environment until the opening of the Newspaper House Gallery in 1933. It remained the major outlet for showing work in either group or solo exhibitions until it closed in 1950, three years after Claude Hotchin opened his Hotchin Gallery (1947–64) on the top floor of Boans Department Store. In 1958 Rose Skinner opened the first purpose-built commercial gallery, on the ground floor of her husband Joe's new office building in Malcolm Street. Rose Skinner was a dealer and gallerist who not only showed local artists such as Guy Grey-Smith, Howard Taylor and Robert Juniper, she also invited leading Australian artists to exhibit in Perth. The Skinner Galleries remained the key venue for contemporary art until their closure in 1976.

During the economic boom of the 1960s, a number of other galleries opened to meet the growing interest Skinner had fuelled. David

Foulkes Taylor opened his Triangle Gallery (1960–65) in the back room of his Crawley showroom, dedicated to furniture and home-wares. The Triangle showed painting and sculpture by Tom Gibbons, Brian McKay, Guy and Helen Grey-Smith, among others. Eliza-beth Blair Barber set up the Cremorne Art Gallery (1966–82) in the Cremorne Arcade off Hay Street, to cater for younger emerging artists and those associated with the Perth Society of Artists. It was one of a number of new public and private galleries catering to the burgeoning art community. The Hovea Gallery opened in 1962, the Hesling Archer Gallery opened its doors in 1966 and the Old Fire Station Gallery two years later, followed by the Fremantle Arts Centre in 1973.

Despite the increasing number of galleries a group of younger artists returning to Perth from study overseas in the 1970s and early 1980s sought out new spaces to show more experimental and non-commercial work. This was the beginning of a long history of Artist Run Initiatives (ARIs) that began with Praxis in 1974. The following year the Praxis group opened a permanent exhibition space in Murray Mews in the City and later in Fremantle, before it was reconfigured as the Perth Institute of Contemporary Art (PICA) in 1989 and moved back to Perth to the Old Perth Boys' School next to the Art Gallery of Western Australia. ARIs proliferated with The Art Office opening in the late 1970s and Media Space in 1981, the Beach Gallery in 1987, Spiral Studios, The Story So Far and The Lab in 1992, followed by the Verge in 1994 and the Breadbox Gallery in 2004.

In 1990 The University of Western Australia opened the Lawrence Wilson Art Gallery, a purpose-built gallery designed to replace the multi-purpose Undercroft Gallery. Eight years later, Curtin University opened the John Curtin Gallery. These university galleries joined the other public galleries, ARIs and the increasingly large commercial gallery sector to cater for the demands of the expanding arts community. **Ted Snell**

See also: Art collections; Art education; Art exhibitions; Art Gallery of WA
Further reading: P. Duffy (ed.), *The Foulkes Taylor years: invitation exhibition* (1982); T. Snell, *Howard Taylor: forest figure* (1995)

Art Gallery of WA In 1895 the colonial government founded a combined institu-tion, The Public Museum and Art Gallery of Western Australia. From its inception, the institution was governed by a Board of Trus-tees. Between 1895 and 1911 a significant collection of paintings, prints, drawings and decorative arts was formed under the guid-ance of Curator and then Director Bernard Woodward with the intention of providing models of instruction and enjoyment for the people of WA. Key acquisitions included paintings by British artists such as Richard Wilson, Richard Bonington and Philip Wilson Steer as well as 'Down on his luck' (1889) by the Australian artist Frederick McCubbin, an image that has since become iconic for the Gallery. An important collection of Brit-ish arts and crafts objects was also added to provide a model of good design for industry. In 1911 The Museum and Art Gallery was amalgamated with the Public Library, with the chief administrative officer for 41 years being the State Librarian J. S. Battye. Due to these administrative arrangements the fortunes of the Gallery were inextricably tied to the other institutions until 1959.

The bequest of Sir John Winthrop Hackett in 1926 enabled the purchase of a few key works in the late 1920s, such as Arthur Streeton's painting 'Barron Gorge' (1924), but the period 1911–54 was generally one of limited acquisitions and activities. Under the directorship of Laurie Thomas from 1952 to 1956, the Gallery focused more effectively on the acquisition and exhibition of contemporary Australian art and a series of international exhibitions shown in the 1950s introduced local audiences to contemporary art from France, Italy, Canada, Britain and

Japan. Director from 1958 to 1976, Frank Norton made many research and collecting trips to the north of Australia that resulted in important acquisitions of Indigenous art. This emphasis on the art of Indigenous Australians has continued into the twenty-first century.

With the passing of the *Art Gallery Act* in state parliament in 1959, the Art Gallery of Western Australia became a separate institution. Autonomy saw the institution slowly grow with the appointment of professional staff. Limitations on space and facilities drove a decision to build new premises, and in 1979 the Art Gallery moved from its original 1908 building on Beaufort Street to its current building, designed by Charles Sierakowski, in the Perth Cultural Centre. The new facilities aided the development of an exhibition program that included high-profile 'blockbuster' exhibitions. In 1995 the Art Gallery added another wing named the Centenary Galleries through refurbishing the adjacent historic Police Courts building.

The Art Gallery has received several significant bequests, including the Hackett Bequest (1926) and the Claude Hotchin Bequest (1977). These have contributed to its capacity to purchase major national and international artworks. Fundraising campaigns such as the Great Australian Paintings Appeal established in 1978 pre-dated the constitution of the Art Gallery Foundation in 1989.

In the early twenty-first century the Art Gallery's collection reflects over a hundred years of collecting art, craft and design on behalf of the people of WA. The collection's foundation of British and Australian art, craft and design remains a strong component. At the end of the twentieth century the Art Gallery redirected its acquisition policy to reflect an engagement with Indian Ocean culture, and significant purchases of work by contemporary artists working in the region were made. The collecting of Australian Indigenous art and Western Australian art have remained high priorities.

Directors of the Art Gallery to 2008 have included: Bernard Woodward, curator 1895–1901, then director 1901–15; Robert Campbell 1947–50; James Cook 1950–52; Laurie Thomas 1952–56; Frank Norton 1958–76; Frank Ellis 1978–86; Betty Churcher 1987–90; Paula Latos-Valier 1990–96; Alan Dodge 1997–2007; Stefano Carboni 2008–. **Janda Gooding**

See also: Art collections; Art galleries
Further reading: J. Gooding, 'A gallery for all? The Art Gallery of Western Australia', in J. Gregory (ed.), *Western Australia between the wars 1919–1939: Studies in WA History*, 11 (1990); A. Vizents, 'The hall of mirrors: The Art Gallery of Western Australia 1950–1957', in D. Bromfield (ed.) *Essays on art and architecture in Western Australia* (1988)

Art, modern Long after its styles and formal concerns had been determined, modern art arrived in Perth. It appeared in fragments: rumours, reproductions and attitudes, which were misunderstood and misrepresented. In a 1932 review, George Pitt Morison, long-time curator of art at the WA Museum (1906–42), who abhorred modern art without ever having seen it, congratulated the WA Society of Arts 'on the fact that the ultra modern monstrosity has not obtained a footing'. His 'monstrosity' was the School of Paris (c. 1900–30). A few atypical examples of modern art, by Cezanne, Van Gogh, Severini and Feininger, were present among the reproductions collected by Walter Murdoch for The University of Western Australia (UWA) in 1927. They did not reduce antagonism towards it. As late as 1964, outrage greeted the purchase of a reclining figure by Henry Moore for the WA Art Gallery. Modern art remained a profitless marginal interest.

Through the 1930s, UWA, notably Alec King, and the Workers Art Guild (1934–40), sustained interest in modern art. The few 'modern' artists in Perth were not welcome

to teach. Most found work in advertising. An over-simplistic choice, born from provincial romanticism, between modern art as utilitarian social realism and pure freedom of expression, shaped their work. Both attitudes found a home in the post-Depression, bohemian leftism of the Workers Art Guild. An early member of the Guild, Harald Vike (Norway 1906–29, Australia 1929–87), settled in Perth in 1929. He exhibited conventional landscapes and city views. *Perth Nocturne* (1934), a view downwards to brightly lit shops, and *Perth Roofs (suburban Perth)* (1939), a painstaking rendering of the corrugated roofs, garages and back alleys of north Perth, were modern only in their subject. Vike joined the Communist Party in 1935; his 'modern' work followed Daumier and Van Gogh approved models for social realism. *In the Reading Room, Perth Library* (1937) he shows activists working on their research. Vike painted bright, impasto studies of working-class life and robust, heroic paintings of Fremantle wharfies. His painted banner for the Amalgamated Engineering Union (1936) included international icons of modern engineering on one side, on the other a worker in overalls bestriding the world.

Portia Bennett, who arrived from art training in Sydney and work in Brisbane in 1932 and joined the Perth Society of Artists in 1938, contributed something of the broader appreciation of modernism in the east through her paintings of the haphazard modernisation of Perth city centre in the thirties and forties. *Hotel Adelphi, Perth* (1948), with its downward view, neon sign and rows of parked cars, is typical of her liking for picturesque urban modernity. More often, however, she succumbed to the prevailing impulse to aestheticise the urban scene, as in her paintings of the Town Hall, which, she observed, 'is nothing to look at until mid winter, about June, when the sun strikes the corner of the Royal Arcade and reflects onto the hall creating a lovely pink glow'.

Surrealism reached Perth a year after the International Surrealist Exhibition, London

(1936). The West Australian Herbert McClintock took up automatic drawing and surrealist painting under the pseudonym Max Ebert but failed to grasp its revolutionary implications. The masked nude figure in *Composition* (1938) is an academic collage. McClintock's head hanging by its hair in a tree, between a cotton reel and a boomerang, in *Approximate Self Portrait in a Living Room* (1938) is mere fantasy. In 1938, Vike and McClintock debated Modern Art at the Modern Women's Club. It was the first occasion that the unique terms of its reception in Australia were presented. Vike defended realism and attacked surrealism as an irresponsible flight of fantasy, completely divorced from experience. McClintock defended it, inaccurately, as the supreme achievement of personal sensibility. For them modern art was a brief episode: they left Perth to pursue weak realist painting, McClintock in 1940, Vike in 1941.

In 1940, Iris Francis, a landscape painter and design lecturer at Perth Technical College, painted a modernistic *Self Portrait,* in which she superimposed a cello, a palette, a framed painting, a bag of golf clubs and a pressure cooker. The radical aspirations of modern art had dwindled to an illustration of modern living, a source of anecdote or decoration. Only Ernest Philpot (England 1906–13, Perth 1913–85) remained fascinated by its formal qualities, as his *Morning (Suburban morning)* (1940) shows.

After the Second World War, modern art reappeared in the work of Elise Blumann (Germany/England 1897–1938, Perth 1938–90). In 1917–18 she studied with Max Liebermann in Berlin, among modern art and artists. Blumann painted portraits and landscapes, such as *Gooseberry Hill* (1948), in the gentle Jugendstil style of her youth, modified by Cezanne and the atavistic mysticism of the Blue Rider Group. She repudiated expressionism as crude. A female nude in her exhibition at Newspaper House Gallery in 1944 caused a minor scandal.

Three Western Australian artists experienced modern art first-hand. Guy Grey-Smith and Howard Taylor, both wartime pilots who met in a POW camp, trained as artists in England. Robert Juniper began a commercial art course in Beckenham, UK, in 1943 at the age of 14. He withdrew from the course in 1947 to work in design studios, returning to Perth in 1949. He was deeply impressed by the work of Paul Klee.

Grey-Smith studied with Henry Moore and Ceri Richards at Chelsea School of Art in 1945. In 1946 he encountered Fauvism in Paris. He adopted a Fauve style, recognisable in *Kings Park, Perth* (1948). In the 1960s he adapted the extremely heavy impasto technique of the Russian expatriate, Parisian Nicolas De Stael, for his expressive landscapes.

Juniper was attracted to an anecdotal version of social realism, as in his *Bar at the Palace Hotel* (1956). His *National Bank Mural* (1954–55) combined images of contemporary industrial progress with historical scenes culled from a dictionary. His easel painting incorporated memories of popular postwar British art: *Drying Sails* (1957) is reminiscent of Tristram Hillier, while *Park Lane* (1956–57) employs graphic devices familiar in the work of John Piper.

Howard Taylor was the sole Western Australian artist to comprehend the creative ethos of modern art fully. For forty-five years he pursued a constructive, formal, anti-decorative, anti-anecdotal art derived from the local landscape. He studied at Birmingham College of Art 1946–49 then returned to Perth. Paul Nash and Ben Nicholson influenced him profoundly. His painting *Tree Forms* (1956) shows a covered cylinder of spiral shapes imposed across an arc of radiating tree branches, a relocation of a constructivist sculpture in natural forms. His friend, the modernist architect John White, commissioned Taylor's first sculpture *Stick Insect* (1957–58). Taylor was an excellent teacher of architecture students, but modern art remained beyond the pale at Perth Technical College, and elsewhere. **David Bromfield**

See also: Art galleries; Art Gallery of WA
Further reading: D. Bromfield (ed.), *Aspects of Perth modernism, 1929–1942* (1986); G. Dufour, *Howard Taylor: sculptures, paintings, drawings 1942–1984* (1985); J. Gooding, *Western Australian art and artists 1900–1950* (1987); T. Smith, *Robert Juniper* (1999)

Art patronage Benefaction and sponsorship has been limited in all art forms in Western Australia. The struggle to keep the colony viable for much of the nineteenth century left few resources for patronage of the arts, and it was not until the gold rushes that it began to emerge. Nevertheless, bequests in WA were generally low. For example, Sir John Winthrop Hackett gave £3,000 to the Art Gallery of WA in 1926, whereas the Felton Bequest to Victoria in 1904 was for £384,000, half of which went to the National Gallery of Victoria. Artists were generally reliant on commissions.

Between the wars, private collectors and artists such as Joe Skinner and George Pitt Morison provided support for artists. Some artists, such as Kathleen O'Connor, relied on their families for financial support. Postwar, private patronage increased through the activities of commercial galleries such as the Claude Hotchin Art Gallery, the Cremorne Gallery and the Skinner Galleries. Hotchin also made substantive donations of artworks to public hospitals and regional local government authorities.

The 1960s heralded substantive bequests to The University of Western Australia, and, later, the Art Gallery of WA, by Rose Skinner, Salec Minc, James Watson, Harold Schenberg and other collectors. The Rural and Industries Bank (now BankWest), retail outlets, television and radio proprietors and other small businesses also sponsored art prizes and exhibitions. In the 1990s, Wesfarmers emerged as a major sponsor of the arts. Many private galleries continue to nurture the talents of individual artists. **Lorna Kaino**

See also: Art collections; Art exhibitions; Art prizes and awards; Public art

Art prizes and awards encourage local and regional artists by creating audiences through public exposure and publicity. While few arts prizes were offered in Western Australia before the 1947 (ongoing) Albany Art Prize, awards and corporate sponsorship proliferated in the 1980s.

In 1948 two art awards were inaugurated. The first, the acquisitive Hotchin Art Prize 1948–66, with oil and watercolour categories, was exhibited in the Claude Hotchin Gallery in Boans Department Store. Acquisitions and works from Hotchin's private collection formed the core of Royal Perth Hospital and many country town collections. The second, the Art Gallery of Western Australia's Annual Art Competition 1948–50, evolved into the Jubilee Open Art Competition in 1951, reverting to the Annual Art Competition in 1952–53. Its profile was revised in 1954; as the Perth Prize for Contemporary Art (PPCA), it continued for a decade. Public controversy about abstraction, propriety, and perspective in Robert Juniper's winning entry *St Xavier's Thorn and a Fetish* (1954) triggered public debate about contemporary art issues, catapulting Juniper and Art Gallery of WA Director Laurie Thomas into the public spotlight and drawing an audience of 26,793.

The Perth Prize for Drawing 1965–68 became the Perth Prize for Drawing International 1970–75, superseding the PPCA. However, public controversy, now about drawing, was sustained and hotly debated. Richard Larter's *Googal Box-Galaxy* was described as 'obscene' and distasteful. The competition ended with the 1977 Perth International Survey of Drawing. The Art Gallery of WA continued exhibiting many prizes, including the TVW Channel 7 Young Artists' Award of $3,000 in 1974, 1976, 1977, 1980, 1982 and 1983.

During 1958–76, the Skinner Galleries in Malcolm Street, Perth, hosted the Commonwealth Games Art Prize (1962) and, from 1957–59, the Perth Festival Invitation Art Prize, known as the Thomas Wardle Prize. Between 1958–62, English critics John Russell, Patrick Heron and Robert Melville and, in the 1960s and 1970s, local critics Patrick Hutchings and Salec Minc, judged many Perth prizes. Public critical dialogue challenged both artists and audiences. Skinner Galleries also hosted the Perth Society of Artists, B. P. Jackson and McKellar Hall prizes, and in 1958–59 the (Rupert) Murdoch Prize.

Special awards encouraged specific media or themes. In 1974 the Printmakers Association of Western Australia inaugurated prizes with three categories. The Fremantle Print Awards began in 1976 with a first prize (acquisitive) of $5,000, and in 1977 an Indigenous Print Award for $2,000. Contemporary interpretation of Christian texts inspired the acquisitive Mandorla Art Prize for Religious Art, inaugurated in 1985 by the Mandorla Centre for Inner Peace and sponsored by the Benedictine Monastery, New Norcia. Regionally, the acquisitive Bunbury Art Prize ran from 1959–76, becoming the Bunbury South West Survey from 1987–2003 and the Bunbury South Western Times Survey in 2004.

The two richest annual prizes are the Bank West Contemporary Art Prize, of $15,000, inaugurated in 1998, and the Joondalup Invitation Art Award of $10,000. **Christine Sharkey**

See also: Art collections; Art criticism; Art galleries; Art Gallery of WA; Art patronage
Further reading: A. McCulloch, *The encyclopaedia of Australian art* (1994)

Arts policy was absent from Western Australia's political landscape for the best part of the twentieth century. While there had been occasional ad hoc support for aspects of the performing arts in particular, the arts per

se did not loom large in the imaginations of politicians, nor the majority of their electors. They were deemed non-essential, a luxury indulged in by the elites, or so it seemed. Yet a growing number of Western Australians were actively enjoying visual arts exhibitions, as well as performances offered by the likes of the National Theatre Company (at the Playhouse), the WA Opera, the WA Ballet, the WA Symphony Orchestra and the Festival of Perth, all of which had been established prior to 1970.

On 28 January 1970 the Brand coalition government endorsed the establishment of the Western Australian Arts Advisory Board (WAAAB). It represented the state's first tentative step towards officially recognising that it had a legitimate role in supporting artistic endeavour. Chaired by The University of Western Australia's Professor Frank Callaway, its core function was to recommend to the Treasurer an annual allocation of funds for the performing and other arts. Federally, the Australian Council for the Arts (later known as the Australia Council) had just been created and there was a growing expectation that the states would collaborate with the Commonwealth in fostering the arts.

With escalating demand for state support, the Tonkin Labor government decided to transform the WAAAB into the Western Australian Arts Council (WAAC) by way of the *Western Australian Arts Council Act 1973*. Chaired by Callaway until 1979, the WAAC was a statutory authority, its mission being to 'encourage, foster, and promote the practice and appreciation of the arts [by whatever means] it considers necessary'. Operating at arm's length from government, it was soon distributing over a million dollars annually from consolidated revenue. Most areas of the arts benefited, with the regional touring of performances and exhibitions enhancing access by non-metropolitan audiences.

Subsequently, the Burke Labor government irrevocably changed the funding agenda by giving the arts portfolio departmental status,

thus making support for the arts a party political issue. Established in 1986 under the *Public Service Act 1978*, the Department for the Arts (DFTA) expanded the functions of the WAAC, and brought all of the key cultural institutions under a single ministerial umbrella. From 1986 to 1996, with funding programs now encompassing the visual, literary and performing arts, successive state Labor and Coalition arts ministers promoted policies to enhance participation by particular constituencies. Regional communities, women, Aboriginal people, young people, people with disabilities, and people of non-English-speaking backgrounds were all targeted. Lobbying by special-interest groups was intense and at times acrimonious. Fallout from the collapse of the State Theatre Company in 1993 still resonates.

Coalition arts minister Peter Foss undertook a far-reaching restructure of the arts portfolio in 1997. The DFTA was reinvented as ArtsWA, one of seven portfolio agencies within a new Ministry for Culture and the Arts, encompassing the Art Gallery of WA, the WA Museum, ScreenWest, the Perth Theatre Trust, the State Records Office and the State Library of WA. The 2001 election of the Gallop Labor government saw the ministry re-designated as the Department of Culture and the Arts, with ArtsWA introducing new programs for the support of designer fashion and contemporary music.

While the scope and intensity of government support for the arts grew exponentially in the late twentieth century, critics argued that the arts lacked true champions within government, pointing to an absence of 'big picture' vision, and bemoaning the fact that no WA premier had adopted the arts as a badge of the state's identity. Ageing or inadequate infrastructure was continually cited as a barrier to the public's access to an increasingly diverse arts and cultural scene. With a booming economy and record budget surpluses, the Gallop and then the Carpenter Labor governments began to address the

inadequacies, announcing in 2004 the construction of a new theatre within the Perth Cultural Centre. Then, late in 2007, a $73-million package of initiatives designed to ignite the arts was announced, claimed as the biggest single injection of arts funds in the state's history. This was followed by the unveiling of plans for a new WA Museum but the global financial crisis of 2008–09 deterred these plans. **Barry Strickland**

See also: Art Gallery of WA; Book publishing; Dance, performance; Drama festivals; Festival of Perth; Film; Music; Opera; Television; Theatre and drama; Western Australian Museum

Asbestos mining Prospecting for asbestos fibre began in Western Australia in the 1880s but met with little success. Chrysotile (white asbestos) was found in the Pilbara region of the North-West and several very small shows were being worked intermittently by 1912. The finds could not be mined profitably, however—fibre seams were narrow, the host rock hard and the localities remote. The Board of Trade rejected an application in 1922 by state government and private interests for tariff protection from imported asbestos fibre. Western Australian fibre remained uncompetitive. Prospecting increased during the 1930s depression as government encouraged unemployed men into the outback and as international fibre prices rose in the late 1930s. New or previously abandoned leases were worked by hand, including the crocidolite (blue asbestos) deposits in the Hamersley Range, approximately 1,600 kms by road north of Perth and 320 kilometres inland from the coast at Roebourne.

In 1943 Colonial Sugar Refining Company (CSR) acquired a controlling interest in L. G. Hancock Asbestos Company's leases and small mill in Wittenoom Gorge and the state's most ambitious and ill-advised asbestos mining venture began. CSR made its decision despite the scepticism of Australia's main manufacturers of asbestos products, James Hardie and Wunderlich, but with the encouragement of overoptimistic state and Commonwealth governments. Asbestos fibre was a strategic commodity, particularly valued in wartime, and the North-West's 'empty spaces' awaited development. Plans to sell the fibre on both the international and domestic markets foundered quickly. Mine and mill development proved more difficult than expected, long-term overseas contracts could not be won and CSR's Australian competitors did not want its fibre. An application to the Tariff Board in 1954, supported by the state government, for a protective tariff on imported asbestos fibre failed again. This decision forced CSR into a major compromise with James Hardie, resulting in approximately half Wittenoom's output being purchased by James Hardie after 1957. In the early 1960s, mining and milling costs rose as management was pressured by government inspection to improve dust control and by its potential customers seeking improved fibre quality control in milling. Fibre prices fell and labour shortages increased, adding to the pressures. The operation closed in December 1966 with accumulated losses of $2,500,000. The venture was uneconomic: South African crocidolite could always be purchased in Australia more cheaply than Australian crocidolite.

Wittenoom was a small, single-industry company town sustained by government assistance. State and Commonwealth governments agreed to establish the town with public housing and other amenities, and also to provide continuing sea, road and rail transport subsidies. The workforce was always highly transient, approximately 44 per cent of workers staying less than three months and only 22 per cent remaining longer than one year. In this way nearly 7,000 people worked at Wittenoom. Most of the predominantly young, single, migrant, male workforce was recruited on contract—a six-month contract

from Perth or a two-year contract from overseas (mostly from Italy).

Dust permeated mill and mine. With asbestos–related diseases—asbestosis, lung cancer and mesothelioma—diagnosed in increasing numbers from 1958, Wittenoom eventually became one of the world's infamous occupational health disasters. Chrysotile mining at small outback ventures, little more than prospecting shows, continued into the 1970s, exports of asbestos fibre ending in 1977. **Lenore Layman**

See also: Geology; Mining and mineral resources; Occupational diseases; Pilbara; Public health

Further reading: D. W. Henderson, K. B. Shilkin, S. Le P. Langlois and D. Whitaker (eds) *Malignant mesothelioma* (1992); J. McCulloch, *Asbestos—its human cost* (1986); L. Layman, 'Work and Workers' Responses at Wittenoom, 1943–1966', *Community Health Studies*, 7, 1 (1983)

Asia, relations with Western Australia's contact with 'Asia' began with Macassan fishers coming south in search of trepang (sea slugs) and trochus shells and making contact with Aboriginal people of the North-West, which may have occurred as early as the sixteenth century. However, the modern history of awareness of and interaction with the region dates from the establishment of a British garrison at King George Sound, Albany, in 1826. While the British presence in Albany and the move to the Swan River colony (now Perth) in 1829 was designed to reinforce Britain's claim to the Australian continent as a whole, it was also a logical step to bolster strategic and economic aims in the region. The return of Java to Holland in 1815, for instance, had weakened British participation in the valuable spice trade in South-East Asia. However, as much of Asia had already been colonised by various European powers, direct contact between the Swan River colony and 'Asians'

was limited. For most early Western Australians of European origin, immigrants from China, Japan, the Indies and Timor, among others, provided the most likely source of contact. The North-West town of Broome, for instance, developed as Western Australia's first truly multi-racial town from the late nineteenth century as a result of indentured Asian workers in the pearling industry. Since 1969, Broome has held an annual Festival of the Pearl (*Shinju matsuri*) to remember and celebrate these 'Asian' origins.

Since the early nineteenth century, Asian countries have been reconfigured in the imagination from the 'Far East' to the 'Near North'—a region more proximate to isolated WA than to any other state. As diplomatic, economic, educational and cultural relations with Asian nations have grown, this has aided the development of distinctly Western Australian views of 'Asia', which often undermine dominant (South-Eastern) Australian views of the region.

Economics has been the driving force of Western Australia's relations with 'Asia' since the early nineteenth century. Trade between the Swan River colony and British colonies in India and Singapore began in the 1830s, with imports of goods such as sugar, flour, rice and tea. Exports in those early years were minimal. By the 1840s, however, horses and, to a lesser extent, cattle and sheep were being exported to India, followed by timber in the 1850s and gold in the 1890s. By the mid to late twentieth century, Western Australia's most significant export destination, the United Kingdom, had been replaced by Japan, China and India, largely due to what has been termed as the state's 'accident of geology'—its wealth of natural resources, including gold, iron ore and bauxite. Japan became the state's largest trading partner in the late 1960s. It retained this position until 2007, when it was eclipsed by China, with exports to China valued at $14.3 billion that year. The Department of Industry and Resources maintains several offices in Asia to promote state exports, namely in Japan,

China, Taiwan, South Korea, India, Malaysia, Singapore, Thailand and Indonesia.

WA also has strong diplomatic, educational and cultural relations with many Asian countries. The informal lines of relations with Asia perhaps date to the early 1890s, when a telegraph cable was laid between Broome and Java. More official arrangements certainly existed by the turn of the twentieth century, as prisoner transports took place between Perth and other European colonies in Asia. In 1900, for instance, six pearlers accused of five counts of murder aboard the brigantine *Ethel* were extradited from Dutch-ruled Makassar to Perth.

While formal responsibility for external affairs passed to the Australian government upon Federation in 1901 (although it remained effectively managed by Britain until the 1940s), diplomatic relations have continued to strengthen between the state and individual nations in Asia. WA boasts sister-state arrangements with Hyogo Prefecture, Japan (established 1981), with Zhejiang Province, China (1987), and with the Province of East Java (1990). Various Western Australian cities also maintain Asian sister-city relationships, with the first such link established between Perth and Kagoshima, Japan in 1974.

The state's relations with Asian nations have been strongly promoted by the study of Asian languages, particularly Chinese, Japanese and Indonesian, at primary, secondary and tertiary level since the 1980s. Murdoch University's Asian Studies program is the oldest in the state, and includes a specialist Asia Research Centre, established in 1988. Such educational programs have been extensively supported from within Asia by such organisations as the Japan Foundation. In addition, a growing number of international students from China, Taiwan and Japan, and also from South-East Asia, particularly Singapore, have chosen to attend schools and universities within the state. In 2005 a Confucius Institute was established at The University of Western Australia (UWA). The

first of its kind in Australia, it is a non-profit joint venture between the National Office for Teaching Chinese as a Foreign Language (Ministry of Education, Beijing, China), Zhejiang University and UWA.

Tourists from Asia, particularly Singapore, Japan and China, have also made up a large percentage of international visitors to WA since the 1980s, although the state remains less favoured than, for example, Queensland. The WA government has attempted to improve the state's image as a tourist destination with a television campaign entitled 'Face to Face', which showcased the state's tourist regions in broadcasts on the BBC World Asia network in Japan, China, Malaysia, Singapore and India in early 2006.

Cultural relations with Asian nations have been bolstered by notable WA artists who have looked to Asia for inspiration, such as artist Robert Juniper who was inspired by both Chinese and Japanese aesthetics, most notably utilising Japanese art techniques relating to space and shadow in his famous landscapes of WA. In recent years the WA arts scene has been supported by strong contributions from Asian institutions and figures, such as the Japanese philanthropist Dr Handa Haruhisa, who has sponsored various arts events and forums, including The UWA Perth International Arts Festival and the Art Gallery of Western Australia, and endowed a chair in human rights education at Curtin University in 2004. **Narrelle Morris**

See also: Asian immigrants, nineteenth century; Asian immigrants, twentieth century; Economy; Iron ore; Japan, relations with; Oil and gas
Further reading: J. Gothard (ed.), *Asian orientations: Studies in WA history*, 16 (1995)

Asian immigrants, nineteenth century The Asian-born component of the Western Australian population throughout the nineteenth

century never exceeded 4.7 per cent of the total populace. However, despite relatively small numbers, their presence as temporary and permanent settlers resulted in restrictive legislation that largely controlled their individual and communal economic, social and cultural experiences.

Fishers from the Indonesian archipelago had visited the Kimberley coast as early as the 1700s, searching for trepang, but though they established links with Aboriginal communities in the North-West, had shown no inclination to settle. Asians first took up residence in WA as servants accompanying early British settlers and a small number of labourers from India were brought to the South-West to work in 1838. In 1847 a scheme to import Chinese labourers from Singapore to alleviate colonial labour shortages was commenced. It was withdrawn when convicts from Britain were introduced, but reintroduced in 1878, after convict transportation ceased; a pool of cheap and compliant labour was perceived as necessary for building the colony, particularly in the pastoral and agricultural industries. One thousand Chinese indentured servants arrived between 1847 and 1897. Most left Western Australia after their contracts had expired, however, a few stayed on under renewed contracts or to work on their own account.

Throughout the 1880s the development of the pearling industry, the expansion of pastoral holdings and the discovery of gold attracted immigrants from a number of Asian countries: Indians, Afghans, Japanese, Malays, 'Macassans' (Indonesians), Filipinos, Chinese and South Sea Islanders. Although some of these were contracted as indentured labour in pearling and pastoral work, many arrived as 'free' immigrants independent of ties and obligations to Anglo-Australian employers. The arrival of these immigrants resulted in several pieces of legislation aimed at restricting the entry of further 'free' Asian immigrants and confining their economic activities to areas that did not threaten Anglo-Australian labour or business.

The first piece of legislation was intended to prevent Chinese from owning small pearling boats, which were used for shallow pearling in the Shark Bay area. The 1886 *Sharks Bay Pearl Shell Fishery Act* required pearlers to acquire a licence, which could only be obtained with the approval of the governor. Although there was no explicit mention of 'Asians' in the Act, it was generally acknowledged that it would be made impossible for these immigrants to obtain a licence. The Act, which applied to the owners of pearling boats, forced Chinese out of the industry and prevented Japanese pearlers owning deep-sea pearling luggers a decade later. However, it did not exclude Asian labour from pearling, and indeed, from the 1880s until its decline prior to the Second World War, the pearling industry remained dependent on Asian labour.

The *Goldfields Act 1886*, passed just months before the discovery of gold at Halls Creek, prevented any 'Asiatic or African alien' from holding a 'Miner's Right, or any lease, license or permit for any goldfield' until five years after the 'proclamation of such goldfield'. Intended to prevent an influx of Chinese comparable to the movement which had joined the gold rushes in the eastern colonies, and introduced before the declaration of any gold find, this legislation was extremely effective in its intent. No Chinese were recorded in any census residing on or near any goldfield in the colony, although Japanese,
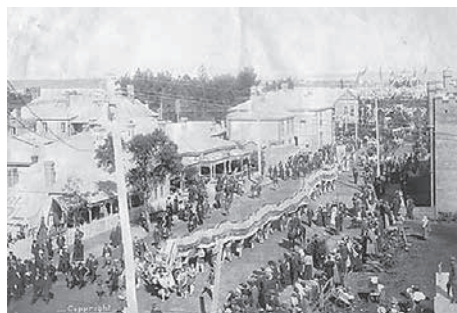
Chinese dragon parade in Milligan Street, Perth, 1901, from the collection of the National Archives of Australia (A1721, 40)

Indians and Afghans operated businesses to service goldfields populations.

The *Act to Regulate and Restrict Chinese Immigration 1886* was also designed to control the potential capacity of the Chinese population in the colony by requiring that ships carrying immigrants could carry only one Chinese per 50 tons of ships' tonnage and a fee of £10 per Chinese passenger was to be paid. These requirements only applied to 'free immigrants', not to imported labour or Chinese already resident in the colony.

The combination of these three pieces of legislation channelled Asian immigrants into specific areas of economic activity, generally distinguished on the basis of ethnicity. 'Free' Chinese immigrants were predominant in market gardening, laundry work, furniture-making and shopkeeping. Market gardening and laundry work provided no threat to non-Asian workers and were allowed to operate with no restrictions. Chinese-run shops either catered specifically to Asian communities or serviced remote areas in harsh conditions. Furniture-making was the only industry that competed with European owned and operated factories and so came under close scrutiny in the early part of the twentieth century under the *Factories Act 1904*.

Immigrants from the Indian state of Punjab, Baluchistan and the north-west frontier region of Afghanistan were crucial in providing transportation services to the interior of the colony before the advent of roads and railway lines. Two Indian businessmen first imported 100 camels and 23 cameleers into the colony in 1887. At first camel transport was not a huge success. However, by the mid 1890s Afghan and Indian cameleers were invaluable in transporting machinery, food, water and other goods required on the Eastern Goldfields, and assisting government contractors such as surveyors and postal workers. Although the majority of Afghans and Indians worked as cameleers, a small group owned shops in Fremantle and north Perth or worked as hawkers.

Japanese immigrants started arriving in the colony in the late 1880s when advances in deep-sea pearling necessitated the introduction of divers familiar with more advanced diving technology. Renowned for their diving skills, Japanese also worked as boatbuilders and repairers and in their own businesses as laundrymen, tailors and shopkeepers, some of which may have been a front for brothels. Unlike the other Asian communities in the colony, which were predominately male, the Japanese community was approximately 20 per cent female. Census data records their occupations as dressmakers, shop assistants and laundry workers. However, police and other reports, including a Japanese government official report, suggest many were part of an international network of Japanese-organised prostitution working in brothels in towns along the north-west coast, the goldfields regions and in Perth and Fremantle.

Although Japanese divers played a central role in pearling, much of the other work was done by Malay, Filipino, Indonesian and Ceylonese labour. They worked as crew on the pearling luggers and as pearl shellers, shell packers and general labourers on shore. Malays were also recorded as working in the pastoral industry and as station hands and cooks.

Throughout the 1890s, despite legislation and regulations limiting Asian participation in the general economic growth of the colony, 'free' and indentured Asian immigrants continued to arrive. Although their numbers were relatively small compared to the influx of non-Asian arrivals from the eastern colonies and overseas and the burgeoning population more generally, anti-Asian attitudes, mainly directed towards Chinese, were expressed by all sectors of Western Australian society. Businessmen perceived the rise of Asian small business as a threat, while workers saw Asians as potentially flooding the labour market. In response to growing agitation, the colonial parliament passed the *Immigration Restriction Act 1897*. The Act was based on

a similar piece of legislation introduced by the Natal government, which had received the rare approval of the British government for such legislation. The Act later became the blueprint for the Commonwealth *Immigration Restriction Act 1901*. Although the Act did not specifically refer to the exclusion of Asians from the colony, it did contain a clause that was to prove very effective in doing so. Any person selected by the appointed government officer would be required to pass a dictation test, which could be given in any European language, as well as English. The Act, however, also contained a clause that allowed Asians already living in the colony to bypass the provisions of the Act if they left the colony and then returned. This resulted in a particular pattern of settlement that affected the majority of Asian settlers: they would work for a few years in the colony, return to their home countries for a year or so, then come back to the colony. This was known as sojourning.

By the end of the nineteenth century, Asians made up 2.6 per cent of the total population of the colony. Except for a few individuals, the majority were excluded from the social and political life of colonial society and confined to a narrow range of occupations. Their daily lives were generally restricted to their own predominantly male communities in which they retained their languages and attempted to maintain cultural activities important to them. **Anne Atkinson**

See also: Asia, relations with; Asian immigrants, twentieth century; Camels; Contact, non-European; Entrepreneurs, immigrant; Middle Eastern immigrants; Migration; Muslims; Pearling; Workers

Further reading: A. Atkinson, *Asian immigrants to Western Australia, 1829–1901* (1988); R. Ganter, *Mixed relations: Asian–Aboriginal contact in North Australia* (2006); J. Gothard (ed.), *Asian Orientations: Studies in WA History,* 16 (1995); J. Ryan, *Ancestors: Chinese in colonial Australia* (1995)

Asian immigrants, twentieth century By the turn of the twentieth century, white attitudes to Asians in Western Australia were largely reflected in the 'White Australia policy', which perceived non-white people as a threat to the moral, social, economic and physical health of the Australian population. Until the 1950s, the laws embodied in the White Australia policy encouraged discriminatory practices that were accepted as norms within Australian society. In the second half of the century, however, attitudes slowly changed, laws were rescinded and people of Asian ancestry were gradually accepted as part of Australian and Western Australian society. In 2001, people of Asian ethnicities comprised just over five per cent of the state's population and have made significant contributions to the state's development, particularly in business, the public service, science, health and education.

The Commonwealth government's *Immigration Restriction Act 1901*, like Western Australia's 1897 *Immigration Restriction Act*, effectively closed the doors to all Asian immigrants to WA with the exception of a handful of indentured Asian labourers. Predominantly from Japan and the Indonesian archipelago, these workers continued to work in the state's pearling industry centred on Broome, which was exempted from the Act of 1901 until the industry was wound down in the 1940s. Until the 1950s Asian residents of WA remained under close scrutiny under legislation passed in the nineteenth and early twentieth centuries that was designed to limit their economic and social activity. The state's *Factories Act 1904* prevented Asians from establishing furniture factories and laundries and demanded that existing ones and their owners and employees (usually Chinese) be routinely examined. In 1920 the WA *Factories and Shops Act* restricted the operating hours of shops kept by 'persons of Asiatic, African or Polynesian race'. In 1916 all Asians, except Indians (who were regarded as British citizens), were classed as

'aliens' and required to register at their local police station and report any changes to their address and occupation under the *War Precautions Regulations*. Other inventories kept of 'aliens' included the Registers of Applications for Exemption from the Dictation Test under the Commonwealth's *Immigration Restriction Act 1901*, and reports on individuals made for the Immigration Department. In 1941 the Commonwealth Investigation Service registered all 251 Japanese living in WA as a precursor to their internment in South Australia, Victoria and New South Wales, with the outbreak of war in the Pacific.

There was never a homogenous 'Asian' community in WA; rather, it was divided along ethnic, religious, linguistic, birthplace and social lines, and tensions frequently emerged. Friction in the pearling industry in Broome resulted in armed conflict along ethnic lines in 1907 and 1914; and in December 1920 ongoing antagonism between the large Japanese and the smaller Koepanger (also referred to as 'Malay') community erupted into open hostility, resulting in three to six deaths and serious injuries to another sixty people, in what became known as the Broome race riots.

By 1947 only 0.7 per cent of the Western Australian population gave their birthplace as 'Asian'. (This figure included the few white women who married Asian men and the children of these marriages who, although born in Australia, lost their Australian national status and were defined as 'Asian'.) The Chinese community, for example, had declined from 1,621 in 1901 to 458 (375 male, 83 female) by that year. Most of the Asian population were elderly and largely reliant on their own communities for support. Others recorded in the 1947 census had been born in countries that were not typically associated with 'Asiatics' of earlier times. For example, immigrants from Palestine and British Malaya did not feature in earlier census data but were probably able to enter the country because they held British

passports, having sought refuge in WA from wartime conditions.

The process of demolishing the White Australia policy started at a national level in the decades following the Second World War and the process reverberated through WA as well. A small number of Japanese women entered WA as the wives of Australian servicemen formerly stationed in Japan. In 1958 the Commonwealth *Migration Act* replaced earlier Immigration Acts and the dictation test was dropped. Selected Asian students obtained entry under the Colombo Plan; Asians permanently resident in Australia were given the right to become naturalised and have their wives, children and aged parents join them; limited numbers of highly skilled non-European immigrants were given entry from the 1960s; and discriminatory legislation that had denied Asians social security benefits, mining licences and entry to certain occupations was abolished. However, it was not until 1973 that federal immigration policy was changed to remove all clauses that discriminated on the basis of 'race', ethnicity and birthplace, religion or cultural background, with entry henceforth to be determined by family relationship, skills and need. In 1975 the Commonwealth's *Racial Discrimination Act* came into operation, prohibiting race-based discrimination in the provision of goods and services, land, housing and other accommodation, access to places and facilities, employment and trade union membership.

The most significant new feature of immigration to Australia in the final quarter of the century was migrants from the Asian region. Prompted by the arrival of Vietnamese 'boat people' in 1976, and limited numbers of officially recognised Indo-Chinese refugees from camps in Malaysia and Thailand, the Australian government accepted increased numbers of Vietnamese, Cambodians and Laotians after the United Nations Refugee Conference in 1979. The Community Refugee Settlement Scheme was implemented to assist refugees in establishing a new life in Australia. Later

agreements with the government of Vietnam allowed Vietnamese residents in Australia to sponsor relatives as immigrants. Between 1975 and 1985 more than 120,000 refugees from Indo-China settled in Australia. The 2006 census listed 10,488 Vietnam-born people living in WA.

With the increase of Asian immigrants, mostly from South-East Asian and South Asian countries, community organisations were revitalised or established, often by students who had entered WA under the Colombo Plan in the 1950s and 1960s. These organisations sought to assist new migrants with settlement and to provide ongoing support and social activities. By the 1980s most ethnic groups had at least one community organisation, all of which were amalgamated under the Ethnic Communities Council, a non-government organisation set up in 1975 to represents Western Australia's ethnic communities and to lobby government on behalf of its members. Also from the early 1980s, with the introduction of multiculturalism at a federal level, government agencies such as the Multicultural and Ethnic Affairs Commission and the Equal Opportunities Commission were instrumental in developing equal opportunity and social justice programs that took into account the diverse cultural and linguistic backgrounds of Western Australians and their various needs.

Though community attitudes towards Asian migrants were generally increasingly favourable, in 1988 a very small group of racially prejudiced activists in the Australian Nationalists Movement (ANM) conducted a race-hatred campaign across Perth through racist posters and graffiti, and the firebombing of Chinese restaurants. The leader, Jack van Tongeren, was gaoled for twelve years and legislation and regulations to curb racism were introduced, partly in response to the actions of the ANM. The *Racial Harassment and Incitement to Racial Hatred Act* was passed by state parliament in 1990 after two years of debate. Occasionally, discussions about immigration and settlement revive concerns about

a resurgence of 'White Australia', but with arguments ostensibly focused on 'culture' rather than 'race', immigrants from regions other than Asia, particularly the Middle East, are now as likely to be the target.

At the beginning of the twenty-first century, Asian immigrants made up 40 per cent of the state's annual migrant intake, with people born in an Asian country making up 5.3 per cent of the population. The five top source countries of Asian immigrants in WA are Malaysia (1 per cent), India (1 per cent), Singapore and Vietnam (0.5 per cent each), and Indonesia (0.4 per cent). Data on ancestry indicates the majority of immigrants from South-East Asian countries are ethnic Chinese. Thus, 2.7 per cent of the WA population give 'Chinese' as their ancestry, followed by Indian (0.8 per cent), Vietnamese (0.6 per cent), Filipino (0.4 per cent) and Malay and Burmese (0.3 per cent each). Chinese dialects were spoken in one per cent of Western Australian households while two per cent of the population gave their religion as Buddhist. **Anne Atkinson**

See also: Asia, relations with; Asian immigrants, nineteenth century; Buddhism; Chinese New Year; Dragon Boat Festival; Entrepreneurs, immigrant; Middle Eastern immigrants; Migration; Multiculturalism; Muslims; Race riots; Refugees; Shinju Matsuri

Further reading: A. Atkinson, *Asian immigrants to Western Australia, 1829–1901* (1988); R. Ganter, *Mixed relations: Asian–Aboriginal contact in North Australia* (2006); J. Gothard (ed.), *Asian Orientations: Studies in WA history,* 16 (1995); J. Jupp (ed.), *The Australian people: an encyclopaedia of the nation, its people and their origins* (2001); J. Ryan, *Ancestors: Chinese in colonial Australia* (1995)

Association of Independent Schools
The Association of Independent Schools of Western Australia (AISWA) is a voluntary organisation of non-government schools in

WA. It was formed in 1962 when a group of non-government schools, both Catholic and non-Catholic, decided to provide an independent view of education in the state. The first president was Brother W. G. Hall, then Headmaster of Aquinas College. Up to 2005 there have been a further twenty-six presidents, all senior personnel in the non-government system.

The services provided by AISWA include advice on Curriculum Council requirements, assistance with industrial and legal matters, help with issues relating to school governance and professional development for principals and teachers. AISWA also plays a role in putting the views of its member schools to the state and federal governments, especially in relation to funding, and is the nominated education authority for all non-Catholic independent schools for the management of Australian government targeted programs.

In 2005 AISWA had 149 member schools located throughout the state with a total enrolment of 59,000 students. These include large 'single sex' and co-educational metropolitan schools teaching children from kindergarten to year 12 students, smaller metropolitan and country primary and secondary schools, and Aboriginal Community Schools in remote areas of the Kimberley and Pilbara regions. Some of the schools reflect a particular educational philosophy, which contributes in distinctive ways to the diversity of schooling in WA. **Audrey Jackson**

See also: Education, Catholic; Education, independent schools

Asthma management in Western Australia improved over the twentieth century from a focus on allergy to one on airway pathology and physiology, due to the increasing availability of chest physicians after the decline of tuberculosis, the introduction of inhaled bronchodilators (1960s) and corticosteroids (1970s), and growing expertise within the

state. Growing awareness of asthma as a widespread and potentially fatal illness by physicians, allergists and paediatricians, and the enthusiasm of community members, particularly Judith Barton (1923–2005), led to the establishment of the Asthma Foundation in 1964 to promote research and education regarding asthma. Funds raised established the Clinical Immunology Research Unit at Princess Margaret Hospital under Dr Keven Turner in 1969. The Unit was later incorporated into the Institute of Child Health Research and under the Directorship of Professor Pat Holt (from 1991) has become a major international centre for the investigation of immune mechanisms in asthma. Professor Lou Landau was appointed from Melbourne to the Chair of Paediatrics at The University of Western Australia in 1984 and, with his colleagues, developed physiological measurements of lung function in infants with asthma. Asthma Foundation programs of education, developed for patients, schools, workplaces and for 'asthma educators', became the basis for programs adopted nationally.

In 1966 the Busselton Health surveys commenced and are still recording the prevalence of asthma, its risk factors and lung function in an expanding community. Along with birth cohort studies such as the Raine Study (1989), research into asthma in WA is recognised internationally for its contributions to knowledge regarding the natural history (including epidemiology, genetics, immunology and physiology) of asthma. As in most developed countries, asthma is common in WA. The Busselton Health Surveys have shown that asthma in adults increased from around 10 per cent in 1966 to around 15 per cent in 1994 and remains at this level in 2007. Data from the Perth arm of the International Survey of Asthma and Allergy in Children (ISAAC) showed that 25 per cent of 6–7 year olds and 30 per cent of 13–14 year olds had current wheeze. In Aboriginal people, the prevalence of asthma in children is similar for those living in Perth but less in more remote areas. These activities account

for the significant role of the state in the formation of the national body Asthma Australia and in the listing of asthma as the Sixth National Health Priority in 1999. **Alan James**

See also: Aboriginal health; Child health; Princess Margaret Hospital; Public health; Tuberculosis

Astronautics concerns itself with the science and technology of spaceflight. Western Australia has played an important, though minor, role in international astronautical efforts. Its position in the southern hemisphere and on the Indian Ocean, combined with politically favourable inclinations, has made WA an ideal location for support to the space programs of the United States and the European Space Agency.

During the Mercury astronaut program the United States used a tracking facility near Muchea. Opened in 1961, it was one of the seventeen tracking stations (two in Australia) around the globe. Apart from receiving telemetry data, Muchea also served as a command facility during missions. The facilities were housed in trailers and included an S band radar instrument. Data was sent to Washington by means of teletype equipment and radio. The Muchea site was closed after completion of the Mercury program in 1963. For the following Gemini and Apollo programs, tracking efforts were transferred to the Carnarvon Tracking Station.

During the solar eclipse of 20 June 1974, United States' scientists, in cooperation with CSIRO, flew two Terrier Sandhawk sounding rockets from launchers erected in Lancelin. The objective of these flights was to make scientific observations of the eclipse and, in particular, the Lyman-alpha radiation emitted by the Sun. After reaching an altitude of about 600 kilometres the two payloads descended into the ocean. Unfortunately only one was recovered, providing limited data. One launcher is on display at the Aviation Museum in Bull Creek.

In 1979 the United States National Aeronautics and Space Administration (NASA) established the Yarragadee Mobile Laser (Moblas) tracking facility at the Yatharagga property near Dongara. Its initial purpose was to track the Space Shuttle but after establishment of its space-based tracking network, NASA transferred the Yarragadee facility to the Australian government for use in the Australian and International geodetic framework. The facility remains in use.

Established in 2002, the European Space Agency's deep-space tracking station at New Norcia is a crucial link in the solar system exploration missions undertaken by that agency. The station is equipped with a 35-metre parabolic reflector dish antenna. The dish's pedestal has a beam waveguide system, cooled S and X band Low Noise Amplifiers and 20-kilowatt S and X band transmitters. Its equipment can be extended to use on the Ka band. The New Norcia facility is usually unmanned, control being provided remotely from the Perth International Telecommunications Centre (PITC) facility in Gnangara.

Owned by Telstra, the PITC facility at Gnangara is not only used for receipt of international communications, including telephone calls and radio and television broadcasts such as news and sports, but is also used in support of scientific space missions. The facility has, among others, a 15-metre-diameter antenna with reception in both S and X band and transmission in S band as well as an antenna for the Global Positioning System-Tracking and Data Facility.

The Defence Signals Directorate (DSD) operates a military receiving station at Kojarena, near Geraldton. It provides signals intelligence for Australian government bodies, as well as the United States, the United Kingdom, Canada and New Zealand.

WA took an early lead in the use of satellite imagery in environmental management. This work eventually resulted in the establishment of the Leeuwin Centre for Earth Sensing Technologies at Floreat Park in May

1993. The Leeuwin Centre brings together government and private organisations with capabilities in image acquisition, processing, enhancement and interpretation as well as education and training.

In 1997 the Australian Defence Science and Technology Agency and the United States Missile Defense Agency launched a number of Terrier-Orion rockets from a facility at Anna Plains, south of Broome. **Jos Heyman**

See also: Carnarvon Tracking Station; Communications; USA, relations with
Further reading: H. Lindsay, *Tracking Apollo to the moon* (2001); A. T. Philp, *Eclipse '74: a report on the rocket launches conducted to observe the total solar eclipse in Western Australia, 20 June 1974* (1974); 'New Norcia Tracking Station', *News bulletin of Astronautical Society of Western Australia*, 27, 2 (2001); D. H. R. Spenneman and L. Kosmer, 'Heritage Sites of the US Space Program in Australia', *Quest*, 12, 2 (2005)

Athletics Foot-running or pedestrianism, later referred to as professional running, was a feature of the earliest sports meetings in colonial Australia. From the goldrush days in the 1890s and during the first decade of the twentieth century, these athletics events attracted considerable attention and large crowds, especially on the Eastern Goldfields. Often head-to-head contests, they regularly featured the world's best professional sprinters, including Queenslander Arthur Postle, Victorian Jack Donaldson and Irishman Rochford Beauchamp Day, the British champion. The Western Australian Amateur Athletics Association (WAAAA) was formed by a group of local amateur sports enthusiasts in 1905. However, because professional running had a strong hold in the state, the amateur organisation folded three years later, and it was another two decades before amateur athletics again had a state controlling body.

The first meeting of the re-formed WAAAA was held at the Bohemia Hotel on 19 April

1928. The association did not have a headquarters in the early years, with competitions being conducted at Guildford Grammar School, James Oval at The University of Western Australia, Hale School in Kings Park and Perth Modern School. Later, Leederville and East Fremantle ovals were used until Perry Lakes Stadium became available in 1962. Because the WAAAA refused to allow women to compete at its weekly meetings, the Western Australian Women's Amateur Athletic Association (WAWAAA) was formed in 1936 and its members competed at Subiaco Oval on Friday nights for a couple of years until moving to Leederville Oval. The WAAAA and the WAWAAA merged in 1979 under the umbrella body of the Athletics Association of Western Australia, a name subsequently changed to AthleticA. A split had previously emerged in senior athletics when a large number of distance runners became disenchanted with the WAAAA's failure to foster distance running, and this was the catalyst for the formation of the West Australian Marathon club in 1971, which still holds long-distance races on most Sunday mornings throughout the year.

Sprinter Shirley Strickland pictured winning a 100 yards final, February 1948. Courtesy West Australian *(SP2978)*

Two WA athletes became household names throughout Australia during the country's 'Golden Age' of track and field, the 1950s to the early 1960s: Shirley Strickland (de la Hunty) and Herb Elliott. Strickland was one of the world's top female sprinters and hurdlers, competing at the 1948, 1952 and 1956 Olympic Games and winning a total of three gold medals, as well as five national titles. (In the 1940s and 1950s, the Australian women's track and field championships were only held every second year; Strickland's record would otherwise undoubtedly have been even more impressive.) Elliott, who won the 1,500 metres at the 1960 Olympic Games in Rome, was unbeaten in the 1,500 metres and one mile until he retired after the 1960 Olympics at the age of twenty-two. High-jumper John Winter was the state's only other Olympic track and field champion, winning at London in 1948, until pole vaulter Steve Hooker won Australia's first field gold for 60 years at Beijing in 2008. Western Australian Decima Norman was another athlete of great talent who won a record five gold medals at the 1938 Empire Games in Sydney, but did not have the chance to compete at an Olympic Games because of the advent of war.

Professional foot-running meetings were held irregularly in Perth and country towns from the 1930s onwards and, after a two-decade break, the Western Australian Professional Athletics League was re-formed in 1984, changing its name to the West Coast Athletic League in 1987. A professional running circuit throughout the state was established. Dave Strickland (1900), father of Shirley Strickland, and Dean Capobianco (1990) are the only WA athletes to win the Stawell Gift, Australia's most famous footrace.

Athletics for children under the age of 12 was first held at Perry Lakes Stadium on 17 February 1968 and the Western Australian Little Athletics Association was formed the following year. As one of the state's largest junior sporting organisations, the association has grown from 300 in 1969 to nearly 6,000 athletes.

The Western Australian pair of John Gilmour and Cliff Bould emerged as two of the world's best veteran distance runners in the late 1960s. Their international successes led to the formation in 1974 of the Western Australian Veteran Athletics Club for athletes over the age of thirty.

The inaugural City to Surf fun run in 1975 marked the formal commencement of Western Australia's jogging boom. The annual 12-kilometre race attracted 500 runners for the inaugural event and developed to become the state's most popular participatory sporting event, with a record 25,101 competitors in the 2005 race. **David Marsh**

See also: City to Surf fun run; Empire and Commonwealth Games; Western Australian Olympic and Paralympic Medallists (appendices); Sport, disabled people
Further reading: D. Gava, *A personal best: the history of the West Australian Marathon Club* (1997) B. Stoddart, 'Sport and society 1890–1940: a foray', in C. T. Stannage (ed.), *A new history of Western Australia* (1987); W. Vamplew, K. Moore, J. O'Hara, R. Cashman and I. Jobling (eds), *The Oxford companion to Australian sport* (1997)

Augusta, 320 kilometres from Perth, in the Shire of Augusta-Margaret River, was the third European settlement in Western Australia. It was named after Princess Augusta, daughter of George III. Governor Stirling selected land near Cape Leeuwin as one of his grants in the Swan River colony, and chose a site at the mouth of the Blackwood River for the establishment of a settlement with harbourage at Flinders Bay, where whalers established Try Works in the 1830s.

Early settlers included the Molloy, Bussell and Turner families and their employees, who arrived at Flinders Bay on 2 May 1830. Difficulty clearing, poor soil, isolation and lack of government assistance saw most settlers gradually depart for more suitable areas. From

the 1860s, agricultural and pastoral activity expanded, but remained sparse.

In the 1880s, the heavily forested area north of Augusta attracted M. C. Davies & Co. to the region to establish karri timber mills. A flourishing timber industry developed, with Karridale (destroyed by fire, 1961) as the timber centre, railway lines to ports at Hamelin Bay and Flinders Bay and a new road to Busselton. Davies and Wishart built Leeuwin Lighthouse (1896) and Davies constructed Alexandra Bridge (1898). After closure of the mills, few people remained in the district until the advent of the Group Settlement Scheme in 1921, when Groups 3 and 4 were established at Kudardup and Karridale, and others followed (1921–26). Infrastructure developed to service the group settlements, including roads and a Busselton–Flinders Bay railway, enabled further development. In the 1960s a fishing and abalone industry was established at Augusta.

Tourism has been a significant industry in the area. It commenced when the Caves Board opened Lake Cave to the public in 1901, followed by Mammoth Cave and Jewel Cave (from 1959), and expanded following establishment of the region's wine industry in the 1970s. Augusta people achieved a world first with the successful rescue of ninety-six stranded whales in 1986.

Most buildings in the area have been of vernacular design, although M. C. Davies' residence at Karridale and the Augusta Hotel (1912) were architect-designed. Other than the hotel, most buildings were timber-framed until the 1960s, when masonry construction became more frequent, although timber-framed construction has remained popular. From the 1980s there has also been some rammed-earth construction, including Lumen Christi Church (1985), one of a number of architect-designed buildings dating from the late twentieth century. **Robin Chinnery**

See also: Caves, tourism; Foundation and early settlement; Group settlement;

Lighthouses; Margaret River; Timber industry; Tourism; Wine

Further reading: G. J. Cresswell, *The light of Leeuwin* (2003); T. Cullity, 'Vasse Felix Vineyard and West Australian Wine-Growing', *Early Days*, 10, 2 (1997); P. Forrestal, *A taste of the Margaret River* (1995); L. Watson, 'Light railways in the south west of Western Australia', *Early days*, 11, 3 (1997)

Australia First Movement, ultra-nationalist, semi-fascist and anti-Semitic, grew from resentment of perceived British attitudes toward Australians during the First World War, the Great Depression and even the 'bodyline' cricket tour of 1932–33. Its leaders, the Sydney writer Percy Reginald 'Inky' Stephensen and businessman William John Miles, were tolerated by the Right in the 1930s because of their anti-Communism; they were, however, increasingly sympathetic toward the totalitarian governments of Germany, Italy and Japan as the Second World War approached. The movement's Western Australian branch did not exist until 1942; its membership then consisted of just four people and a Military Intelligence agent provocateur, Frederick James Thomas. Largely on Thomas's evidence, Laurence Frederick Bullock, a Gallipoli veteran, and Charles Leonard Albert Williams, an insurance agent, were convicted in the WA Supreme Court on 23 June 1942 of conspiring to assist Japanese forces then seemingly poised to invade Australia. Both served gaol terms and were then interned by Commonwealth authorities. Nancy Rachel Krakouer, a postal assistant, and Edward Cunningham Quicke, a dairy farmer, were acquitted by the jury but interned regardless, along with sixteen other movement members from New South Wales and Victoria. A Commonwealth Commission of Inquiry in 1946 found such repression largely justified, even though movement members had done no more than express solidarity with wartime enemies. Only three letters are known to have

passed between the Australia First Movement in Sydney and Bullock's associates; Bullock and Stephensen met for the first time in the Loveday internment camp in South Australia. On their release, the Western Australians faded into obscurity; Stephensen likewise after an attempt in 1948 to seek a wider inquiry. The internments nonetheless posed a question of continuing relevance: How far should democracies adopt authoritarian community rules in times of emergency? **Peter Gifford**

See also: Internment; Second World War
Further reading: B. Muirden, *The puzzled patriots* (1968); B. Oliver and W. S. Latter, 'Spooks, spies and subversives! The Wartime Security Service' in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

Australian Broadcasting Corporation
Few undertakings have played such a part in Australian culture as public broadcasting, the production and presentation of radio and television programs, by the Australian Broadcasting Corporation, formerly Commission. The initial letters of the name have been credited with establishing the best-known acronym in the nation: the ABC. Funding the organisation was helped by revenue from radio and television licence fees until they were abolished in 1974. Since then, the ABC has been funded by government grants but without surrendering independence, despite occasional touches of tension between government and broadcaster.

Commercial stations had been established for some years in Australia, at locations including Perth, when the *Australian Broadcasting Act* of 1932 established the Commission as a statutory body comprising a part-time chairman, five part-time commissioners and a full-time general manager, to provide a national service free of commercial advertising. Head office was in Sydney and state

Exterior of Australian Broadcasting Commission's national studios, St Georges Terrace, Perth, 1937. Courtesy West Australian *(HIST5705)*

branches operated under local managers. Programs were broadcast through seven stations in Sydney, Melbourne, Brisbane, Adelaide, Hobart and Perth, and relay stations at Newcastle, Corowa, Rockhampton and Crystal Brook. Prime Minister Joseph Lyons launched the Commission in Sydney on the evening of 1 July 1932.

Broadcasting in Western Australia had begun in 1924 as an information service operated by Westralian Farmers Limited through its own station. The initial letters of the company's name gave the station its call sign, 6WF. (The prefix number six would be applied to all stations in the state.) Within a few years 6WF was troubled by questions of quality and finance, which brought a decision in December 1928 to sell the transmission equipment and rent the station premises to the Commonwealth. In the following year the government called tenders for a national service, and awarded a contract to a consortium known as the Australian Broadcasting Company. Then came the Act of 1932 and the shift from company to commission.

Programs on the first full day of ABC operations offered music, sport, stock exchange and shipping news, 'morning devotions', stories for children and talks for women on 'common-sense housekeeping', needlecraft and goldfish. Music made up about half the

material used in early programming, much of it provided 'live' by dance bands and 'wireless choruses'. Soon the ABC was establishing studio broadcasting orchestras in each state. Perth knew several before 1950, the year the state government and local authorities agreed to subsidise what became known as the West Australian Symphony Orchestra. In mid 1997 all orchestras were transferred from the Concerts department of the ABC into separate subsidiary companies.

From the first year of ABC Radio, live and recorded 'talks' on current affairs won ready audiences. Early speakers included King George V and the British Prime Minister Ramsay MacDonald, and topics ranged from religion to the horrors of bodyline bowling in cricket. ABC News bulletins evolved from agreements with press associations, cable services, British Official Wireless News, relays of police messages and weather forecasts. In 1936 the first Federal News Editor was appointed to control a national service, which was relayed to all states except WA, where the local service continued the system of taking from newspapers and other sources by arrangement. The ABC News Department was established in 1947, relaying national bulletins to the states, to be supplemented by state and eventually regional bulletins. The department became the largest independent news-gathering agency in Australia, widely respected at home and abroad.

ABC Radio regional broadcasting in WA began with relays from Perth through radio 6WN, a call sign of letters taken from the locality of the transmitter at Wagin. By the first years of the new millennium, WA contained eight ABC regions including Perth. The others were the South-West, South Coast, Great Southern, Goldfields–Esperance, Mid West–Wheatbelt, North-West and Kimberley, offering relays and local content. Perth offered radio programs through 720 6WF, Radio National, Classic FM and Triple J.

Some ABC radio programs became legendary, remembered many years after the final episodes. Among them was the *Women's Session* presented from Perth by Catherine King for the 22 years after 1944. A midday serial, *Blue Hills*, ran for twenty-seven years from 1949 to 1976; *The Argonauts Club*, originally a children's program in Melbourne (1933–34) returned as a national offering from 1941 to 1972, attracting a peak membership of more than 50,000; and the *Wilfrid Thomas Show* ran for almost forty years, from 1941 to 1980. *Kindergarten of the Air*, which originated in WA in 1942, was hosted by Margaret Graham until 1960. *Let's Join In*, a program of songs and stories for junior primary children, began in 1951. Originally called *All Join In*, it was created by Dorothy Fleming, who presented the program from Perth for twenty years. It was broadcast nationally from WA three days a week during term time until 1989.

Prime Minister Menzies introduced the ABC's first television broadcast on 5 November 1956 in Sydney. He had been less than enthusiastic about television, dismissing it as a peep show and saying he hoped that 'this thing' would not appear in Australia during his time in office. The Melbourne television studios were opened two weeks later, on 19 November, in time for ABC-TV's coverage of the 1956 Olympic Games. Next came Brisbane in 1959, followed in 1960 by Adelaide, Hobart and Perth, the Western Australian service beginning on 7 May. Ten years later ABC television's east–west microwave system was opened, linking the western and eastern states. In the final decade of the twentieth century the ABC began the conversion to digital technology for both television and radio. The ABC's first digital channel, ABC2, opened in 2005.

The Australian Broadcasting Corporation, cheerfully nicknamed Aunty ABC, has won high regard as a leading influence if not the leading influence in the Australian culture.
Les Johnson

See also: Journalism; Radio; Radio drama; Television

Further reading: K. S. Inglis, *This is the ABC: the Australian Broadcasting Commission, 1932–1983* (2006); K. S. Inglis, *Whose ABC?: the Australian Broadcasting Corporation 1983–2006* (2006)

Australian Democrats The first meeting of the political movement headed by Don Chipp, which came to be the Australian Democrats, was held in Perth on 29 April 1977. This meeting was so successful that the Perth Town Hall was filled to capacity, and at least five hundred people were turned away from the door. The Australian Democrats as a political party was formed in that same year, with a division operating within the Western Australian electoral boundaries.

The first elected representative from WA was Jack Evans, elected to the Senate in the double dissolution election on 5 March 1983. Evans was a successful businessman who was instrumental in persuading Don Chipp to become involved in the meeting that launched the party in Perth. He held the Senate seat until June 1985 and was also the National President of the party from 1981 to 1983.

While in some policy areas, particularly economic issues, the Australian Democrats are seen as conservative, the commitment of the party to social justice, as spelled out in the constitution, is reflected in party policy. The constitution lists twenty-three objectives, which refer specifically to consideration of 'social, economic and environmental objectives' and to 'honesty, tolerance, compassion and a sense of mutual obligation'. This can be seen in the stance that the party has taken when opposing proposals such as the construction of the Franklin Dam in the early 1980s, extinguishing native title in the 1990s, and the mandatory detention of refugees arriving in Australia in the 2000s.

The party has been represented in the Senate continuously since 1977, holding nine seats from 1998 to 2001. The number of

Senators from WA has varied, with WA being represented for fourteen of the years between 1983 and 2004. Between 1998 and 2004 the Australian Democrats held two of the Senate seats from Western Australia.

For much of this time the Australian Democrats held a significant role in the balance of power. Voter support in lower house seats has never matched the support in upper house seats, as the party has been seen as a part of the checks and balances in the bicameral system of government. However, the senators and MLCs have shown themselves willing to negotiate on elements of the government agenda that are not directly opposed to the policies of the party.

The most successful period for the party in WA was the period between 1993 and 2001. In December 1996 the Australian Democrats were successful in contesting the WA state elections, when two Members of the Legislative Council were elected, in addition to two Senators from WA. However, in 2001 the two MLCs were unsuccessful in recontesting their seats, and in the 2004 federal election the Senate representation from WA was reduced to one, Andrew Murray. He retired in 2008 along with the three other Democrats in the Federal parliament. **Helen Hodgson**

See also: Federal politicians; Parliament; Politics and government
Further reading: J. Warhurst (ed.), *Keeping the bastards honest: the Australian Democrats' first twenty years* (1997)

Australian Labor Party The Australian Labor Party in Western Australia dates from the first Trades Union and Political Labour Congress, held in Coolgardie in April 1899, and involving delegates from the Coastal (Perth and Fremantle) and Goldfields Trades and Labor Councils, representing the two major centres of industrial labour in WA at that time. The 1890s gold boom brought many Labor pioneers to the West. Significant also were

electoral reforms resulting in the payment of Members of the Legislative Assembly, compulsory arbitration, and the redistribution of seats on a popular basis and adult suffrage (both latter measures increasing the goldfields' representation, which was critical to Labor's success at the polls). The labour movement was further aided by the establishment of the Arbitration Court (1901) and an increase in trade union membership from 9,000 (1901) to 31,000 (1911).

The 1899 Congress delegates agreed to form a joint political and industrial body; to convene policy-making Congresses annually, although this soon became triennially; and to produce a newspaper, the *Westralian Worker*, which ran from 1900 until 1951. The 1905 Congress adopted a Constitution for the State Political Labor Party (SPLP) of Western Australia, stating that the Party would consist of 'all unionists and other adult persons who subscribe to the Rules and Platform of the Party'. The political and industrial wings were formally combined in the Australian Labor Federation (ALF) in 1907, and renamed the WA Division of the Australian Labor Party (ALP) in 1919. The body consisted of a policy-making General Council, a State Executive, and District Councils made up of delegates from the unions and political branches of the Party. This structure remained in place until 1963. The ALP operated from Trades Halls and Workers' Halls, mostly constructed early in the century. Labor Premier Jack Scaddan opened the Perth Trades Hall on 20 April 1912.

Although autonomous at the state level, the ALP (WA) was also a branch of the federal ALP. In the 1901 state elections, twenty-two Labor representatives contested seats, six successfully. Both Labor Senate candidates and two of the three House of Representatives candidates were elected to federal parliament in 1901. From 1915 to 1916, all six Western Australian Senators were Labor. While WA members of the Federal Parliamentary Labor Party (FPLP) have held portfolios in every Labor Federal Cabinet, only twice has the

Party Leader represented a Western Australian seat. Victorian-born John Curtin, who twice held the seat of Fremantle (1928–31 and 1934–45), was party leader for a decade, during which time he served as Leader of the Opposition (1935–41) and Prime Minister (1941–45). Kim Beazley, Leader of the FPLP and the Opposition (1996–2001 and 2005–06), remains to date the only Western Australian-born person to hold this office. Western Australians have also served as ALP Federal President or Secretary.

The first state Labor government, led by Henry Daglish (1904–05) was a minority government, which appeared to achieve very little, but its failures forced the Party to exercise greater care in selecting political candidates and more discipline over Caucus. From 1905 Labor became the recognised political alternative to Ministerialists (the forerunner of the Liberal Party). The Scaddan government (1911–16), the first Labor government to hold a majority in the WA Legislative Assembly, created a number of state enterprises, agreed to subsidise the newly established University of Western Australia in order to make education freely available to all, and introduced heath and safety reforms. This was despite a conservative-dominated Upper House, which continued to foil ALP attempts at legislative reform throughout the twentieth century.

In 1916–17 the ALP split over the issue of conscripting men for military service overseas during the First World War. Five of the six ALP Senators, one MHR and nine SPLP members, including Scaddan, joined the National Coalition led by W. M. Hughes. Despite this disaster, the ALP(WA) was returned to government in 1924 and, except for the period 1930–33, when government reverted to non-Labor, held office under the leadership of Philip Collier and his successors, John Willcock and Frank Wise, until 1947. The 1947 Labor defeat was due partly to the reduction of the number of traditionally pro-Labor goldfields seats, reflecting population trends,

but also to union anger at the government's handling of several postwar industrial disputes. After holding office for six years during the 1950s, with A. R. G. Hawke as premier, the ALP remained in Opposition until 1983, except for one term in 1971–74 under John Tonkin's leadership. In the 1950s the old ALF alliance broke under the strains of union militancy. Guided by ALP State Secretary F. E. 'Joe' Chamberlain (1949–74), the State Congress passed rules to curtail Communist Party of Australia (CPA) influence in Labor ranks. The unions sought direct representation on the ACTU, rather than through the State ALP. Finally, an independent Trades and Labour Council of WA formed in 1963. By 1999, the ALP retained only twenty affiliated unions of mostly 'blue collar' workers.

During the 1980s, factionalism became a significant feature; whereas the Party had previously been dominated by Old Left leaders such as Chamberlain and Colin Jamieson, the administrations of Brian Burke (1983–88), Peter Dowding (1988–90) and Carmen Lawrence (1990–93) brought Centre and Right factions into prominence. The shrinking of its union base and the increasing proportion of tertiary-educated, female and non-Anglo minorities in its ranks served as a catalyst for Labor reform in the 1980s and 1990s. Burke's administration created greater Executive powers, established a role for the state in economic planning and enacted major reforms to the state's electoral laws, which went part way to correcting the malapportionment of the Upper House. Equal Opportunity and Occupational Health and Safety laws and legislation to abolish the death penalty were also passed. Other achievements included constructing the northern suburbs railway. Controversies arising from the government's involvement in several failed business ventures—investigated in the so-called 'WA Inc' Royal Commission (1991)—were instrumental in the Lawrence administration being defeated at the polls in 1993 and the ALP being consigned to Opposition for almost a

decade. In the 2001 election campaign, environmental issues were significant. The Gallop government honoured its promise to cease logging in old growth forests by 2003 and created more national parks. Following the resignation of Geoff Gallop due to ill health, former journalist Alan Carpenter was elected State Premier in 2006.

The ALP has been dominated by Anglo-Celtic males. Although the first Labor Women's Organisations were formed c. 1905, women could not stand for parliament until 1920. Apart from May Holman, who held the seat of Forrest from 1925 until her death in a road accident in 1939, no woman represented Labor in the Legislative Assembly until 1983, when six were elected as members of the Burke government. Ruby Hutchison, the first female Legislative Councillor in WA, served 1954–70, retiring at the age of 79 years. The ALP (WA) also nominated Australia's first woman Senator, Dorothy Tangney (1943–68), while in 1983 Wendy Fatin was the first WA Labor woman to be elected to the House of Representatives. Carmen Lawrence became Western Australia's first female Premier in 1990. Indigenous and ethnic minority groups, too, have been under-represented. Ernie Bridge (1980–96) and Carol Martin (elected 2001) were the first Indigenous Australian man and woman to represent Labor in the WA parliament, the former also becoming the first Indigenous cabinet member. **Bobbie Oliver**

See also: Parliament; Politics and government; Trades and Labor Council
Further reading: C. T. Stannage (ed.), *A new history of Western Australia* (1981); B. Oliver, *Unity is strength: A history of the Australian Labor Party and the Trades and Labor Council in Western Australia* (2003)

Australian Rules football in Western Australia today attracts thousands of participants and even more spectators and television viewers. In the early days of the colony, however,

WA could well have followed the lead of NSW and Queensland, and adopted rugby.

The first game of 'Victorian Rules', as West Australians knew it, was played in Melbourne in 1858, but when the first organised football competition began in Perth in 1881, the game played was rugby. Victorian Rules had been introduced to WA in 1868 by a contingent of Victorian-based troops visiting the colony, but despite a number of subsequent 'exhibition' games and an interest taken by the Collegiate School, of the five football teams that existed in 1881 only one, Unions, showed interest in anything other than rugby.

Enthusiasts Henry Herbert and Bill Bateman persevered with the Victorian code, organising matches while continuing to play in the rugby competition. Public support was strong, with *The West Australian* declaring, 'The Victorian game…for life, dash and general interest to spectators, is probably unequalled'. By 1885 an Association comprising Fremantle, Rovers, Victorians and the High School was under way, and the first official game of the competition was played on 6 June.

The game spread rapidly to regional centres, with the South-West League and the Hannans Districts (Goldfields) Association forming in the 1890s. The lure of gold attracted many football-playing Victorians to the West, and the new association quickly established itself as one of the best in the nation. Country football has remained strong to the present day, providing a steady stream of footballers for city clubs and with a Country Carnival held each year at Perth grounds since 1974.

The economic boom of the 1890s was evident in the quality of players and standard of play in the WAFA. The four clubs, Fremantle, Imperials, West Perth and Rovers, by this time had entered into bidding wars for new arrivals and eastern states recruits. From 1887 to 1896, Fremantle were undisputed top dogs, winning six premierships and recruiting champion players such as A. J. Thurgood from Essendon. West Perth broke the Fremantle run in 1897 but Fremantle teams continued

to dominate the competition. Fremantle became South Fremantle in 1900, but it was new club East Fremantle which subsequently took on the mantle of Western Australia's premier team, appearing in every grand final between 1901 and 1912.

By 1900 Perth football had settled, becoming district-based. The Football Association became the WA Football League in 1908, the same year the first National Carnival was held and Subiaco Oval became league headquarters. Perth, East Perth and Subiaco became established teams in the league as others fell away.

The eight traditional WAFL clubs of today established themselves between the wars, with Claremont (Cottesloe) joining in 1926 and Swan Districts in 1934. The Sandover Medal, for the competition's best and fairest player, was established in 1921, the same year WA won the first national championship held in Perth. The ABC began radio broadcasts in 1929 as public interest grew. Team loyalties

Graham 'Polly' Farmer leading the East Perth Football team onto the oval for a game against West Perth, October 1960. Courtesy West Australian *(A3148)*

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led to inter-district rivalry and the beginning of tipping competitions in workplaces around the state. Interest in the game was also reflected in the growth of suburban teams. The WA Amateur Football League began in 1922 and today has 43 member clubs. The first women's league was not to appear until 1988, but women were vital to club administration and fundraising, as well as swelling the crowds at games.

The three decades after the Second World War were a golden era for football in WA. Attendances consistently broke records, peaking in 1979 when over 50,000 spectators watched South Fremantle defeat East Fremantle in the grand final. From the 1970s, however, sponsorship arguments threatened television coverage, legal battles threatened the traditional club ties of increasingly professional players, and national recruitment for the Victorian Football League (VFL) began to take its toll. Still, with new draft laws, the return to the fold of Channel 7 as a broadcaster in 1977 and the crushing defeat of Victoria in the first ever state-of-origin game, WA football seemed to be as strong as ever.

The number of high-profile Aboriginal players was also increasing, led by Graham Farmer, Barry Cable and, later, the Krakouer brothers. The participation of Indigenous players had received a boost from the success of Syd Jackson, who had also made a name for himself in the VFL, and Sandover medallist Ted Kilmurray. In the next decade, the Sandover Medal count regularly featured Aboriginal players such as Stephen Michael, Phil Narkle and Michael Mitchell.

Change was to come in the 1980s. The eight traditional clubs found their structures outdated. As player payments soared in order to combat the overtures being made by Victorian clubs, grounds and facilities began to show their age and the League was in crisis. A State Task Force recommended investigating a national competition, a state-sponsored redevelopment of Subiaco Oval and an independent football commission. A VFL report

in 1985 included plans for a Perth team in an expanded competition. Despite much opposition from traditional supporters, 1986 saw the formation of the West Coast Eagles, the state's first club in what was to become a national competition. The Eagles went on to become a power of the AFL, winning the 1992, 1994 and 2006 premierships. The club was joined in 1995 by the Fremantle Dockers, who reached their first final in 2003. The same year saw the start of major redevelopment at Subiaco Oval to allow for the now weekly AFL games. Lights were added in 1997, making the ground the showpiece of Western Australian football. Australian Rules was again to thrive in WA, bolstered not only by a renewed interest in the game but also by the impact of the financial windfall the AFL clubs were to bring.

The new sources of funds saw the creation of the Football Development Trust, designed to foster grassroots participation. Adding to the traditional Private Schools Association competition, the Alcock Cup, in the 1990s school competition reflected the increased interest in the game, with the 'Quit Cup' for final-year students and a Year 9 competition variously called the Commonwealth Bank Cup, CIG Shield or Channel 7 Cup. The modified format 'Auskick' has also grown strongly for the under-twelves, promising to deliver more Australian Rules devotees in the future. New fans of the game also led to renewed interest in past greats, with the opening of the WA Football Hall of Fame in 2004, inducting eight 'legends' of the game: Barry Cable, George Doig, Graham Farmer, Merv McIntosh, George Moloney, John Todd, W. J. 'Nipper' Truscott and Bill Walker. Australian Rules in WA had proved, by the new millennium, that it had both a rich heritage and a bright future. **Anthony Lunt**

See also: Rugby league; Rugby union; Sandover Medallists (appendix); Soccer (Association Football); Sport, Aboriginal people
Further reading: A. J. Barker, *Behind the play: A history of football in Western Australia from*

transferred from the old Maylands aerodrome to new airports at Guildford and Jandakot. In September 1952 Guildford was renamed Perth International Airport when the first international flight by Qantas from the new airport left for South Africa. Today, Perth Airport serves as a hub for intrastate, interstate and international passenger flights, while Jandakot has become the centre for general aviation, charter, pilot training and flying doctor services.

There have been two major commercial airline disasters in WA. On 26 June 1950, twenty-eight people died in the crash of a Douglas DC-4 Skymaster aircraft, named *Amana* and operated by ANA. The plane was en route from Guildford to Adelaide and crashed west of York. On 31 December 1968, twenty-six people lost their lives when an MMA Viscount broke up in-flight and crashed south of Port Hedland. **Ted Fletcher**

See also: Air Force; Royal Flying Doctor Service; Second World War; Transport
Further reading: C. Ayris, *Wings of change: the Royal Aero Club of Western Australia (Inc.) 1929–1999* (1999); N. Brearley and T. Mayman, *Australian aviator* (1971); F. Colquhoun, *Cockpit and spanner: my recollections of early aviation in Western Australia* (2001); F. Dunn, *Speck in the sky: a history of Airlines of Western Australia* (1984); H. C. Miller, *Early birds* (1968)

Avon Descent The Avon Descent is a two-day time trial for paddle and power craft covering over 133 kilometres of the Avon and Swan Rivers. Entries are open to any safe river craft, including single and double kayaks, surf skis, double skis and power dinghies.

The Avon Descent was founded and organised by Jim Paine, who acted as race director for ten years. The inaugural event was held in 1973 with just forty-nine competitors, no rules, officials or checkpoints and with very few spectators. In the thirty-one years since,

over 25,000 people, ranging from novices and families to professionals, have competed in the event.

The Avon Descent passes through the farming regions of Northam and Toodyay, national parks, gorges, the Swan Valley vineyard region and, eventually, into the tidal waters of the upper Swan River, with conditions ranging from long stretches of flat water to white-water rapids. Each year the water level varies in accordance with winter rainfall. Some years there is almost no water. Although the race has never been cancelled due to lack of water, the start has sometimes had to be moved to a part of the river with sufficient water. Over 2,000 local volunteers support the race, which is organised by members of Northam's Avon Descent Association, and a survey in 2001 estimated that more than $5 million was injected into the local economy as a result of the event and the visitors it attracts.

Though remarkably safe, the race has recorded one fatality at Katrine Church crossing during the race, and others have been incurred in training at the Tea Tree section and Bells Rapids. **Dave Hunt**

See also: Rivers, Avon, Swan, Canning; Tourism

Avon Valley The Avon Valley lies inland to the east of the Darling Scarp and encompasses the Avon River, which rises at Lake Yealering with a catchment area greater than the area of Tasmania. This major river system, which drains much of the central Wheatbelt region, flows northwards through the historic towns of Beverley (est. 1838), York (est. 1831) and Northam (est. 1836), then north-west to Toodyay (est. 1836). From Toodyay the Avon flows westward where it becomes the Swan River at its junction with Wooroloo Brook. While grain crops and sheep are the main industries of the Avon Valley, tourism plays an important part in the region's economy.

There are many annual festivals and major sporting events such as the 133-kilometre Avon Descent, Australia's white-water classic that attracts international competitors.

European settlement of the Avon Valley followed the recognition in 1830 of its superior soils and conditions for pastures and crops compared to the sandy coastal plain. Land was set aside for the future towns of York (the first inland town in Western Australia), Beverley and Northam. Following the European discovery of the fertile Toodyay Valley in 1831, land was set aside for the town of Toodyay on the Avon downstream from the present townsite. By 1849 the Toodyay district extended from Northam to the Victoria Plains, where farmers had taken up pastoral leases. With the backing of the Avon Valley landowners, lands further north around Geraldton and later to the south in the Esperance district were also explored as part of the expansion of the pastoral industry.

The Avon Valley had been home to a number of Aboriginal people (one meaning for Toodyay, or Duidgee, is a 'place of plenty'). However, numbers diminished with European settlement, a process that increased once military outposts were established to protect the settlers' interests. Wool and wheat were to become major industries. Sandalwood was also harvested as a cash crop from the 1840s with J. H. Monger of York playing a pre-eminent role in this export trade, the second largest in the colony.

The introduction to the colony of convictism in 1850, largely at the urging of the Avon Valley landowners, and the establishment of convict-hiring depots in York and Toodyay in 1851, helped to boost farming production and the construction of roads in the Avon Valley. The town of Toodyay was subject to flooding and in 1860 it was resited closer to the convict depot and renamed Newcastle (the name reverted to Toodyay in 1910). The next major impetus for development was the extension of the railway from Guildford through Northam to York in 1885, then Beverley in 1886, with a spur line to Toodyay in 1888. The rail links encouraged the opening up of the Avon Valley to large-scale commercial wheat farming. The introduction of large machinery and superphosphate to improve soil quality also had a major impact on this industry.

During the gold rushes of the 1890s, York and Northam benefited from the large number of fortune hunters who made their way through these towns to the Eastern Goldfields. However, York's pre-eminent position in the Avon Valley was lost when the Forrest government decided the Eastern Goldfields rail line should run from Northam instead of York. This resulted in Northam's rapid expansion and its position as the major regional centre, a position it holds to this day.

On the political scene, in 1912 a group of disgruntled Avon Valley wheat farmers were instrumental in the formation of the Farmers and Settlers Association (FSA). In 1913, FSA had its own political wing, the Country Party, pre-dating the formation of the Country Party in other states.

During the Second World War Northam was chosen to be the state's main training camp for the forces. Postwar, during the 1950s, it was a major reception centre for European migrants.

The history of the Avon Valley is reflected in its architectural heritage. Both York and Toodyay are classified as historic towns with their main streets retaining many fine examples of buildings dating back to early settlement. Northam's pre-eminence during the gold-boom is reflected in the rich Italianate style of its commercial buildings. **Robyn Taylor**

See also: Avon Descent; Convicts; Migration reception; Railways; Rivers, Avon, Swan, Canning; Second World War; Wheatbelt
Further reading: R. Erickson, *Old Toodyay and Newcastle* (1974); R. Erickson and R. Taylor, *Toodyay homesteads, past and present* (2006); D. S. Garden, *Northam: an Avon Valley history* (1992)

B

Baby farming was the term used for a form of childcare in the late-nineteenth century. The term's first documented use was in the *British Medical Journal* in January 1868. The description 'baby farmer' referred to women (few men were ever involved) who earned a fee for looking after infants while their unmarried mothers worked. Many baby farmers used the money intended for the care of the infants to support their own families while 'sub-farming' the babies out to other families, neglecting or even killing them. Baby farmers and single mothers were driven to the practice through social conditions, including ingrained prejudices against illegitimacy, beliefs in women's sexual chastity, and extreme poverty. However, while the practice was intended to relieve struggling single mothers, the babies rarely saw their mothers again. The late-nineteenth century witnessed the peak in baby-farming activities, and saw a number of baby farmers arrested and charged with neglect or murder after investigations revealed that the majority of babies were maltreated or died in their care.

There is some indication that initial usage of the term 'baby farming' in Australia referred simply to childcare outside the home rather than to unscrupulous carers suspected of neglecting their charges. From the 1860s the expression 'state baby farming' began to be used to describe the process by which a child who had become a ward of the state was placed with an approved foster family, as an alternative to the reformatories, orphanages and asylums that had been the traditional 'dumping grounds' for destitute children.

There has been little research into baby farming in this state, but the most notorious Western Australian baby-farming trial was that of Alice Mitchell in 1907. Mitchell, a married woman with grown-up children, registered as a foster mother in 1901. It is unclear how many children were 'boarded out' to Mitchell by the time she was arrested, as she failed to fulfil the *Health Act*'s requirement to keep a log of all the infants she received. However, death certificates were recovered for thirty-seven babies that had been in Mitchell's 'care' since her registration. Evidence supported only one charge of murder of a baby, Ethel Booth, who had initially been rescued but later died in hospital as a result of starvation. In court, the jury and judge agreed that Mitchell 'had no intention of killing this baby Booth', and she was found guilty of manslaughter. Sentencing Mitchell to five years' imprisonment, Justice McMillan expressed sympathy for the mothers of the children boarded out to Alice Mitchell, seeming surprised at their genuine affection for their offspring. The Mitchell case led to increased interest in the passage of the *State Children Act*, first introduced in 1906 and passed in 1907, which had the stated aim of eradicating baby farming. However, the new legislation did little to diminish the need for the baby farmer's services and the problem of childcare for working mothers remained until the establishment of childcare centres in the 1970s. **Jennifer Worrall**

See also: Child care; Children; Orphanages; Poor houses; Reformatories; Welfare

Further reading: P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); J. Kociumbas, *Australian childhood: a history* (1997)

Baha'i The Baha'i faith is a religion that emerged from Persia in the latter half of the nineteenth century. Among its main tenets are the unity of religious truth, the primacy of the individual's relationship with God, and the harmony between religious and scientific world views; as such, Baha'i is an attempt to reconcile faith with modernity. Baha'i first came to Australia in 1920, and to Western Australia shortly thereafter. The first Local Spiritual Assembly (LSA) was established in 1924; currently there are some twenty-five LSAs in the metropolitan area. There are Baha'i communities in Geraldton, Billiluna, Port Hedland, Karratha and Bunbury. **Paul Laffey**

See also: Spirituality and religion

Band music featured prominently in Western Australian community life from its earliest days. A Pensioner Guards' Band gave outdoor concerts in Fremantle in the 1850s and, from the 1860s onwards, bands attached to the volunteer rifle movement provided music for civic events. Such instrumentalists formed the nucleus of the many brass bands that were established in large country centres as well as Perth and its suburbs in the early twentieth century. Pipe bands associated with Caledonian Societies reflected the population's predominantly Anglo-Celtic background, while Salvation Army bands demonstrated the strong link between music and the church.

The City of Perth Brass Band has existed since 1898, and like many other bands it has had a number of name changes. When the Western Australian Band Association was formed in 1903, for example, it was known as the Federal Band. Among the original country members of this association were

The Metropolitan Rifle Volunteer Band, n.d. Courtesy West Australian *(HIST3980)*

the Albany Town Band, Boulder City Band, and Boulder Australian Workers' Association Band. Conducted by Hugh McMahon and William Partington respectively, the two Boulder bands achieved notable success in interstate competitions from 1902 to 1905.

Organising annual state competitions has been an important task for the WA Band Association. The Young Australia League bands (1910 to 1985) and the RSL Band (formed in 1920 by ex-servicemen from the First World War and since 1990 known as the Perth Concert Band) have been regular participants. Midland Brick Brass, started by Norm Snow in 1958 as a junior regimental band, has been the champion senior brass band every year since 1979.

Many local councils support brass or concert bands, just two present examples being the Bunbury City Band and the Canning City Brass Band (1974). The Silver Threads Band (1981) consists entirely of players who are retirees, while the Combined Districts Concert Band (1987) is primarily for young players. The Challenge Brass Band (which also dates from 1987) was formed originally to cater for musicians with disabilities. **Jean Farrant and John A. Meyer**

See also: Military bands; Music; Salvation Army
Further reading: J. Farrant, 'Boulder bands win at Ballarat, 1904–05', in *Studies in WA History*, 10 (1989); D. Harvey, *History of the Albany Band, 1880–1996* (1997)

Banking took eight years to gain a foothold in colonial Western Australia. Prior to the establishment of the Bank of Western Australia (BWA) in June 1837, the colony had insufficient capital to support a local bank, while external banks dismissed WA as too small to warrant interest. Among the founding shareholders of BWA were leading merchants and landowners, who used the bank to tighten their grip on the economy. Encouraged by this demonstration of viability, the Bank of Australasia opened a branch in 1841, causing upheaval in BWA and, before long, its closure. Several directors of BWA subsequently formed the Western Australian Bank (WAB), competing so successfully with the interloper that it withdrew within five years.

The WAB survived the colonial government's short-lived attempt to encourage working-class thrift by opening a savings bank in 1855, as well as the establishment of the Post Office Savings Bank in 1863. More formidable opposition arrived in the form of inter-colonial banks, beginning with the National Bank in 1866. The London-based Union Bank established a Perth branch during 1878, the Bank of New South Wales (BNSW) arrived in 1883, and the Commercial Bank established a presence in 1888. During the gold boom, Premier Forrest sought to stimulate agriculture by establishing the Agricultural Bank (ABWA). Opening in 1895, ABWA offered cheap credit to settlers and helped stabilise the economy when mining declined.

Banking expanded rapidly in the twentieth century, with branches multiplying, several amalgamations and multiple name changes. WAB opened many new branches but geographical limitations prompted negotiations first with the Commonwealth Bank—established by federal legislation in 1911—and then with BNSW, a merger being effected in 1927. Another locally-based trading bank was created in 1945, when ABWA was reconstituted as the Rural and Industries Bank of WA.

The Reserve Bank's formation in 1960 precipitated the growth of non-bank financial institutions over the next two decades, while deregulation of the sector in the 1980s opened the door to foreign banks. During the 1990s, technological advances and economic rationalisation triggered branch closures in regional and suburban areas, provoking strong public backlash. By 1997 there were forty-five WA shires without access to a bank branch, and many responded by starting community-owned banks in partnership with the Bendigo Bank, the first at Kulin in 1999.
Ken Spillman

See also: Postal services
Further reading: M. Maine, *Banks for people: community banking: prospects and limits*, Perth (2000); K. Spillman, *Horizons: A history of the Rural and Industries Bank of Western Australia* (1989); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979)

Baptist church Baptists commenced in Western Australia when the Victorian lay preacher J. H. Cole founded the Perth Church (1895). A small number of Baptists had been recorded in the 1859 census with numbers gradually rising to 283 in 1891, but a permanent church was not established until 1895. Following the population influx during the gold rushes numbers increased rapidly, reaching 2,914 (1.6 per cent of the total population) in the 1901 census. The first permanent minister, the Rev. A. S. Wilson, had arrived to pastor Perth Church in 1896. During his eleven-year ministry the first four churches formed a Baptist Union (1896), the first building of Perth Church was erected in Museum Street (1899), and a denominational paper was founded (1902). Through him also the Rev. William Kennedy came from Victoria to the Great Southern line (1898), where he established a string of churches. Wilson enjoyed

the strong support of a layman in Perth Church, Mr G. H. Cargeeg (1851–1925), who was President of the Baptist Union on six occasions.

Between 1900 and 1902 a schism over open and closed membership led to two rival unions. A long-term outcome was the formation in 1915 of the North Perth Circuit (Association from 1983; disbanded in 2000).

Soon after Wilson left the state (1907), membership plateaued, so that over the next forty-five years it ranged between 1,100 and 1,600, peaking in 1936. Not until 1954 did it begin to climb steadily. While membership stood at 5,547 in 2001, in the census of that year 30,418 respondents identified as Baptists, the same percentage of the total population (1.6 per cent) as that recorded in 1901. The percentage was maintained in the 2006 census when 32,731 people were recorded as Baptists.

The first full-time Union Secretary was appointed in 1953. The first denominational headquarters at 1320 Hay Street, West Perth, were purchased in about 1956, then relocated to the present site, 21 Rowe Avenue, Rivervale, in November 1988.

Baptists moved into Aboriginal ministries from 1952, with the setting up of Marribank Mission (1952–80) near Katanning. Other Indigenous ministries were added subsequently and continue to the present day.

The theological college opened in a borrowed house in 1963. The foundation Principal, Dr G. N. Vose, was the sole full-time faculty member until 1979 when the faculty was increased to three. In the meantime the college relocated to its own campus at Bentley (1967). From 1985 to 1990 Dr Vose was President of the Baptist World Alliance.

Through a lay President, Mr L. A. Watson, the Five Year Plan of 1971–76 took Baptists into the sphere of retirement accommodation, an area which has continued to grow and diversify, so that in 2004 Baptistcare employed over 680 staff in nine aged-care facilities and in community support

services. The Plan also benefited the Home Mission, the theological college, and youth, who gained a new campsite at Serpentine (1973).

Local churches first established primary and high schools in the 1980s; while later some high schools were established independently. Baptist schools providing full secondary education in 2006 include Carey Baptist College Forrestdale (1998), Lake Joondalup Baptist College (1990) and Winthrop Baptist College Murdoch (1994).

Theologically conservative, Western Australian Baptists emphasise the authority of the biblical writings as the primary sources of Christianity, congregational government, and religious liberty. They have been strong supporters of overseas missions. While Baptist life in WA was initially shaped by the British Baptist tradition, from the 1960s Baptists of the USA have had an increasing influence. Over the last two decades charismatic and Pentecostal worship styles have strongly influenced Baptist practice. **Richard K. Moore**

See also: Spirituality and religion
Further reading: R. K. Moore, *'All Western Australia is my parish': A centenary history of the Baptist denomination in Western Australia, 1895–1995* (1996); R. K. Moore (ed.), *Baptists of Western Australia: the first ninety years* (1991)

Barracks Arch Located at the top of St Georges Terrace, Perth, the Barracks archway was originally the entrance to a 120-room building known as Pensioners' Barracks built in 1866. It was designed by the Colonial Architect, Richard Roach Jewell, to house the Enrolled Pensioner Guards and their families. In the late 1890s the Barracks were converted to offices for the Public Works Department and C. Y. O'Connor, famed Engineer-in-Chief, had an office there. From the 1920s the Metropolitan Water Supply, Sewerage and Drainage Department was also located in the Barracks.

The Barracks Arch became a symbol of both the destruction of Perth's heritage in the name of progress in the early 1960s and the power of the people. Under the Stephenson–Hepburn Plan, plans were drawn up to demolish the Barracks to make way for the Mitchell Freeway and allow the newly renovated Parliament House to become the visual climax of St Georges Terrace. There was a great public outcry led by the Barracks Defence Council. Opposition gained momentum, with the state government led by Premier David Brand accused of high-handedness. Newspaper cartoons depicted flags emblazoned with swastikas flying over Parliament House. Public feeling was manifest in media coverage, including radio polls and television debates, stickers, posters and protests. The wings of the Barracks were demolished in July 1966, but public opinion forced the Brand government to retain the arch and conduct a Gallup poll to determine the level of public support. It showed that 49 per cent of those polled wanted the arch retained while 35 per cent voted in favour of demolition. A subsequent parliamentary vote on non-party lines in October 1966 voted to

Construction of the new Mitchell Freeway between the Barracks Arch and Parliament House, Perth, June 1967. Courtesy West Australian *(HH3626)*

retain the arch. A move to re-site the arch was rejected by parliament in September 1968. **Keryn Clark**

See also: Built heritage; Convict labour; Heritage; Parliament House; Pensioner Guards; Politics and government

Further reading: D. Black, 'Liberals triumphant – the politics of development 1947–1980' in C. T. Stannage (ed.), *A new history of Western Australia* (1981); J. Gregory, *City of light: a history of Perth since the 1950s* (2003)

Base metals—copper, lead and zinc—have been mined sporadically throughout WA, activity being determined primarily by commodity prices. Especially in the early period of Western Australia's development they were eagerly sought because of their importance as a component of much industrial production. The first major discovery was made in 1848 when Augustus Gregory's exploration party located a body of lead ore in the bed of the Murchison River. Production began in 1850 but the mine struggled to be economically viable due to a lack of capital and mining expertise, and its isolation from a port. More successful was the establishment of copper and lead mines further south in the Northampton district in the 1850s. Production declined in the 1880s, however, due to falling base metal prices and the greater attraction of gold prospecting. The gold rush of the late nineteenth century resulted in a number of base metal discoveries being made, with copper being mined at Whim Creek (Pilbara 1889–1970s), Murrin Murrin (north-eastern goldfields 1898) and Ravensthorpe (south-eastern goldfields 1899–1972). Lead and zinc were also mined in the Pilbara in the early twentieth century at mine sites such as Uaroo, Braeside and Narlarla. Improved base-metal prices in the immediate post Second World War period resulted in the reopening of many of these mines and the establishment

of new mines such as Thadura, Copper Hills and Kumarina. In more recent years, zinc has been mined at Teutonic Bore (north-eastern goldfields, 1981–85), copper and zinc at Golden Grove (Murchison, 1990–), copper at Nifty (Pilbara, 1993) and lead and zinc at Lennard Shelf (Kimberley, 1988–). Base metals have also been produced as a by-product of gold and nickel production. **Garrick Moore**

See also: Exploration, land; Geology; Mid West; Mining and mineral resources; Pilbara
Further reading: J. G. Blockley, 'Copper, lead, zinc and tin', in R. T. Prider (ed.), *Mining in Western Australia* (1979); J. G. Blockley, 'The lead, zinc and silver deposits of Western Australia', *Mineral Resources Bulletin*, 9 (1971); G. H. Low, 'Copper deposits of Western Australia', *Mineral Resources Bulletin*, 8 (1963); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993)

Basketball was developed in 1891 by Dr James Naismith at the YMCA Training School at Springfield, Massachusetts, in the USA and was brought to Western Australia by the YMCA organisation in 1911. The game was adopted by the army and other non-service organisations and for a number of years flourished as a physical training and recreational activity throughout Australia. It became particularly popular among returned servicemen, who had been introduced to it during the Second World War.

Basketball spread steadily throughout the Perth metropolitan area and country regions of WA in the late 1940s and 1950s, as men of all ages were attracted by its unique ball-sport skills. It was also valued as a means of keeping players fit, as well as developing social cohesion both within and between teams.

With the game threatening to outstrip playing facilities, a number of leading players, including the late John Leonard, decided to form a coordinating body for basketball in WA. On 3 April 1946 the Western Australian Basketball Association was formed, and since that time the name has been changed several times. It is currently known as the Western Australian Basketball Federation.

Since 1946 the state association has conducted an annual state championship competition, has arranged for interstate and international home and away games, and promoted the development of junior players in WA. They have also assisted in the formation of women's basketball, which has rapidly developed throughout the state in the last two decades. Another notable achievement was the state association's financing of the Perry Lakes basketball stadium, in cooperation with the Perth City Council, as part of the 1962 Commonwealth Games facilities. Since 1962, when the state association was granted leasehold tenure of the Perry Lakes Stadium, it has become the playing and administrative headquarters of basketball in WA.

During the association's formative years, women were attracted towards the International (Naismith) rules and in 1957 the Women's Amateur Basketball Association was formed, becoming a WA sports association in its own right.

Facilities around WA have been updated and expanded in the last two decades and player membership has steadily increased in both the men's and women's associations.

In the early 1980s professional basketball commenced in WA with the formation of the Perth Wildcats, who joined the National Basketball League in 1982. The Wildcats have been one of the better teams in the NBL and, since the league was formed, basketball has become a big spectator sport in Australia. Players have included Andrew Vlahov, James Crawford, Ricky Grace, Scott Fisher, Mike Ellis and Luc Longley from WA, the latter rated as one of the best Australian players of all time. Longley was one of Australia's outstanding players in two Olympic Games and played for ten years in the US National Basketball Association, where his team won three US titles.

In 1988 a Perth team entered the Women's National Basketball League (WNBL), initially as the Rockets; the name later changed to the Perth Breakers and then recently to the Perth Lynx. High-profile players have included Melissa McClure, Michelle Timms, Tully Bevilaqua and Robyn Maher. Professional women's basketball in WA has met with mixed success since it joined the national league.

Basketball is widely played in schools throughout the state, with development clinics conducted at primary schools and inter-high-school competitions at secondary level. Wheelchair basketball is also played by paraplegic athletes in the state. In the early twenty-first century over 23,000 basketball players were registered in associations affiliated with Basketball WA, with a similar number playing in centres operated by local governments, church groups and private entrepreneurs. **Fred Logue**

See also: Netball; Sport, disabled people

Battye Library The J. S. Battye Library of West Australian History, part of the State Library of Western Australia, collects, preserves and shares the state's documentary heritage, and is the world's most comprehensive and diverse repository of Western Australian materials. Besides books, newspapers, periodicals, maps and ephemera, the library has private archives, pictorial, film and oral history collections.

James Sykes Battye arrived from Victoria in 1894, aged 23, to take charge of the Perth public library. At the time of his death in office in 1954, aged 83, he was Principal Librarian and Secretary of the Public Library, Museum and Art Gallery.

Battye began assembling Western Australian collections early in the twentieth century and other records while compiling his *Cyclopedia of Western Australia* (1912–13), *History of the North West of Australia* (1915), and *Western Australia: a History* (1924). Enhancing the collections were the *Newspaper Libel and Registration Act 1884* and the *Copyright Act 1895*, with legal deposit provisions for all WA publications and newspapers. The collection of government and non-government material was assisted by the Public Records Committee (1923), the State Archives Board (1929), and the appointment of Mollie Lukis as archivist in 1945. She was the first archivist appointed in Western Australia and only the third in Australia.

Following Battye's death, the State Librarian and Library Board executive officer, F. A. Sharr, closed the Public Library for refurbishment, and it was reopened in December 1956 as the State Library. It included a distinct Western Australian history library of published and archival materials. Staff were carefully selected to provide a high-level, professional service to clients. The library was named the J. S. Battye Library of West Australian History to honour Dr Battye, with 'West' rather than 'Western Australia' in the title because the collections pre-date white settlement to the early journeys of exploration off the West Australian coast.

Mollie Lukis was the first State Archivist and Principal Librarian of the Battye Library from 1956, assisted by Margaret Medcalf, who replaced Lukis on her retirement in 1971. In charge to 2006 have been Patricia Allen, Lennie McCall, Ronda Jamieson and Jennie Carter.

Most early donations were personal papers, but increasingly regional and local history was gathered in collecting trips around the state, including from North-West stations. A growing interest in business, institutional and labour history led to records being sought from firms of solicitors and accountants, trade unions, gold mines, and clubs and associations.

An oral history program was started in 1961 by Lukis, and she and Medcalf undertook early interviews. The State Film Archives was added in 1978. The State Archives separated in 1988 and included both private and government archives. Private archives

returned to the Battye Library in 1995 when the State Archives became the Public Records Office.

The remarkable collections in the Battye Library include: private archives and monographs from exploration; manuscript newspapers from the early days of the colony and almost complete runs of published newspapers from all over the state; photographic images from 1845; films from 1907; published maps from the 1890s; oral histories where the earliest date of birth is 1863; and an ephemera collection which includes one of the finest collections of political material in Australia.

Digitisation of items began in 1997 and archiving electronic publications in 2002, made available through an online catalogue and specialist websites. A major project to preserve newspapers, photographic negatives and films in the Battye Library collections followed a Lotterywest grant of $3 million over two years in 2005. **Ronda Jamieson**

See also: Bibliographies; Historical records; Historiography, Western Australia; Libraries; State Records Office
Further reading: L. Hays, *Worth telling, worth keeping: a guide to the collections of the J. S. Battye Library of West Australian History* (2002); M. Medcalf, *The Battye Library: two decades of development* (1967); F. A. Sharr, *Recollections: forty years in public library service* (1992)

Beaches Western Australia's beaches are deeply embedded in the state's history. Before European settlement Aboriginal people regularly combed the coastline for food. In the channels inside the surf breaks, rock pools, reefs and fish traps, they harvested the sea's resources, and for centuries theirs were the only footprints on the dazzlingly white sands.

Because Europeans arrived in WA by sea, beaches were always prominent in their accounts of the south land. They were the sites of encounter and disappointment with the particular circumstances often defining their attitudes—Pelsart's disastrous interlude on the Abrolhos Islands in 1629, and the unhappy experience of Volckersen's crew members in 1658 on the coastline between Lancelin and Jurien Bay, and others after them. However, for British immigrants it was the beaches adjoining the mouth of the Swan River, modern-day South Beach, Bathers Beach and Leighton where the initial drama of Swan River's settlement was played out in 1829–30. It was a wind and rain-lashed introduction to an alien environment; these first settlers were literally beached.

In the nineteenth century, apart from initial encounters when arriving, most people turned their backs on the beaches until the 1880s, when the former sites of disappointment showed signs of becoming sites of pleasure. The opening of the Perth to Fremantle railway in 1880 eventually became the catalyst for surf swimming at Perth's beaches. Cottesloe pioneered the new form of recreation because beach and station were only separated by a short walk, a jetty completed in 1908 was a magnet for weekend promenaders, and there were tearooms and a hotel for thirsty 'day trippers'.

Soon after the First World War other beaches became accessible and popular, one example being City Beach, opened to the public by means of a plank road completed

Holiday scene at South Beach, Fremantle, 1916. Courtesy West Australian *(HIST6929)*

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in 1918. By the 1930s the beaches stretched almost continuously from South Beach to Scarborough and Hamersley (North Beach), while away from Perth those of Esperance, Albany, Busselton, Bunbury and Geraldton drew crowds. Protected by reefs from heavy pounding summer surf, most offered safe swimming, and particularly so as the surf life-saving movement (begun in 1909) expanded its activities.

In the last half of the twentieth century, beaches that had been the playground of paddlers, swimmers, bodysurfers and surf life-savers became sites of conflict. Board riders, today's surfers, challenged a long-established hegemony with their individualism, disregard for authority and a ruthless desire to monopolise the best waves. Until order was restored on the surfers' terms, some beaches such as Scarborough, Trigg and Cottesloe were more dangerous than many unsuspecting swimmers realised. At the same time, surfers themselves opened new beaches, most notably Yallingup, Margaret River and other locations around the coastline.

Beaches have always been sites of democracy and hedonism—of equality among all beachgoers and sprawling, tanned, barely clothed bodies—although in the last two decades successful public health campaigns aimed at preventing skin cancer, by organisations such as the WA Health Promotion Foundation, established in 1991, have induced a reluctant cover-up by some adults and many children. At various times, beaches and the adjoining sand dunes have also been sites of sexual encounters and passion, never more so than in the 1940s and 1950s but lingering on to the present. Today there are nude beaches such as Swanbourne; dog beaches at Scarborough, Leighton, North Cottesloe and elsewhere; the well-known surfing beaches of Trigg, the South-West and Kalbarri; and iconic beaches—perhaps the best known being Broome's Cable Beach and the Norfolk Island pine-rimmed Cottesloe, now as recognisable as Manly in NSW. Such

beaches are acknowledged to be major tourist attractions, especially those of the Cape Le Grande National Park with their symphonies of vivid colours. Yet these sites of pleasure are not immune from conflict, especially between nature and commerce. The outcry against introduction of parking fees at Cottesloe, so offensive to those who see beaches as a free community facility, proposals for residential subdivisions (Smith's Beach), and high-rise developments at Scarborough, plus other controversies, all suggest how strongly Western Australians feel about 'the beach', wherever it may be. **Ed Jaggard**

See also: Coasts; Sharks; Surf lifesaving; Surfing

Beauty competitions The first beauty competition held in Australia is said to have been a quest dreamt up by the male editors of the magazine *Lone Hand* in 1908 to find the most beautiful girl in Australia. They planned to debunk the idea that the world's most beautiful girls were American, and to boost their magazine's circulation.

The Miss Australia Quest was not formally established until 1926 when it was promoted by newspaper entrepreneur Clyde Packer. The first official Miss Australia was Beryl Mills, a nineteen-year-old university student from Geraldton. Her prizes included a trip to the United States, where she met President Calvin Coolidge and was praised by the producer of the *Ziegfeld Follies* as typifying 'the 1926 model girl [with] graceful curves, a winsome manner, an attractive and dimpled smile...[from] refined surroundings, and—probably, like Miss Mills…a college girl.'

There has been little research into beauty competitions in Western Australia, though it is known that they were spasmodically organised by a number of organisations from the interwar years onwards. The winner of the 1945 state finals of the Miss Australia Quest, for example, was Jean Witford, a draughtswoman who was

first Miss Lands Department and then Miss Public Service before being crowned Miss Western Australia. Many beach contests were held—the *Weekend Mail*, for example, held a Miss Sunshine Quest in the 1950s offering £2,000 in prizes, while in 1962 there was a Miss Outdoor Quest, and from the 1970s the Miss West Coast competition, a search for potential models, was held at beaches, pools and in shopping centres, the finals being televised by Channel 7. Other Western Australia beauty contests during these years included Miss Flower Queen, sponsored by the Cottesloe Horticultural Society, and Miss South West Apple Queen.

The long-term history of the Miss Australia Quest began in 1953 when Dowd Associates, who marketed Hickory underwear in Australia, began to sponsor the competition, and, from 1954, the quest began to raise funds for state Spastic Centres. The quest was regularly telecast in the seventies, drawing huge audiences. Western Australia produced a number of Miss Australias. They were: Joan Stanbury (1959), Caroline Jackson (1965), Suzanne McClelland (1969), June Wright (1971), Randy Baker (1974), Francene Maras (1977) and Judith Green (1987).

Changing community attitudes resulted in a name change to the Miss Australia Awards in 1992, and then, in February 2000, the awards ceased. Criena Cunningham from Kalgoorlie was the last Miss Western Australia (1991). She was also crowned Miss Western Australia Fundraiser, continuing a tradition that may have begun with the Miss Charity Queen competition run by the Ugly Men's Association just after the First World War.

Major pageants such as Miss World Australia and Miss Australia Universe continue to attract entrants. Perth has twice been dramatically linked to the Miss Universe Pageant. In 1972 Kerry Anne Wells from East Victoria Park in Perth was crowned Miss Universe in Dorado, Puerto Rico, at an event fraught with backstage drama and frontline demonstrators who viewed the pageant as an exploitation of

Beryl Mills became the first Miss Australia in June 1926. The 19-year-old was born and grew up on a sheep station near Geraldton. Courtesy West Australian *(A090101)*

women. The spotlight again fell on Perth in July 1979 when the Miss Universe competition was hosted at the Perth Entertainment Centre. Judges included Latin crooner Julio Iglesias and 4,000 people queued for tickets. Again the evening was marred by demonstrators shouting 'eye ball rapists… why can't a woman truck driver be elected Miss Universe'. The drama switched onstage when the stage collapsed and several people, including contestants, were taken to hospital with cuts and bruises. In 2005 Perth student Michelle Guy won Miss Australia Universe but was unsuccessful at an international level.
Keryn Clark and Jenny Gregory

See also: Tourism
Further reading: K. Saunders and J. Ustinoff, *A crowning achievement: a study in Australian beauty, business and charitable enterprise* (2005); West Australian Newspapers, *The Fifties* (1991); West Australian Newspapers, *The Sixties* (1993)

Bellringing, or change ringing, is a traditional English folk art that originated in the early seventeenth century when it was discovered that bells could be rung using a scientific system of mathematical permutations. While the art maintains a sociocultural association with Anglicanism, it also adopts a broader secular function.

Change ringing was first introduced into Australia in Sydney after the arrival of the first ring of eight bells in 1795. During the nineteenth century the practice spread to other colonies, with installations of bells in Tasmania, Victoria, South Australia and Queensland.

In Western Australia the first change ringing bells were installed in 1903 at St George's Cathedral, Perth, as a memorial to Queen Victoria. Between 1985 and 1998 change ringing expanded, largely due to the influence of Australia's Bicentenary and private benefactors. Three new installations of bells occurred at Holy Trinity, York (1985), Christ Church, Claremont (1988), and St Hilda's Anglican School for Girls, Mosman Park (1996). During the late 1990s, change ringing extended south of Perth, with bells installed at Rockingham Civic Centre (1996) and Christ's Church, Mandurah (1998). Finally, in December 2000, Western Australia's controversial Millennium Project 'The Swan Bells' was officially opened. The eighteen bells located in the Swan Bell Tower on the Barrack Street Jetty in Perth include twelve historic bells from the church of St Martin-in-the-Fields, London.

In the state there are currently around one hundred volunteer ringers who keep the bells ringing at the state's seven change ringing towers. While the traditional role of bellringers to ring bells for church services, weddings and special occasions continues, increased public interest in bells and bell-ringing following the installation of the Swan Bells has resulted in ringers being employed there as demonstrators and tourist guides.
Ron Chapman

See also: Folklore
Further reading: E. Bleby, *Their sound has gone forth: a history of change ringing in Australia and New Zealand to 2001* (2001); E. Morris, *The history and art of change ringing* (1974); R. Chapman, 'A Century of Bells: A History of Change Ringing in Western Australia 1901–2001', Honours thesis, Murdoch University (2002)

Bible Society An interdenominational non-profit organisation tracing its roots back to the formation of the British and Foreign Bible Society in London in 1804, the Bible Society in Australia (WA) translates, publishes and distributes the scriptures to churches, groups, individuals and communities in Western Australia 'free of doctrinal note or comment'. It also cooperates with state, national and overseas Bible Societies to 'achieve the widest possible effective distribution of the Christian Scriptures'.

The parent body supplied the infant colony with bibles as early as 1837, but formation of the Society's first (short-lived) agency came three and a half decades later at the initiative of Elinor Clifton of Bunbury, although not until 1884 was it established in Perth with the Anglican Archbishop of Perth, Henry Hutton Parry, as president. The first paid secretary, Methodist Rev. A. J. S. Fry, was not engaged until 1910.

The Society has maintained this tradition of diverse Christian support through its support base of individual subscribers and the Protestant churches. Presidents are chosen from among the heads of Protestant churches in WA. The Society has relied heavily on the contribution of women to run their branches throughout the State.

Western Australian initiatives include publication of Worrora gospel translations in 1941; becoming, in 1967, the world's first Bible Society to purchase an aircraft (to distribute scriptures in the north); and commencement of Nyoongar translations in 2000. **Ian Duckham**

See also: Spirituality and religion
Further reading: R. Hickin, *Abundance of rain: the story of the British and Foreign Bible Society in Australia, 1817–1967* (1966); A. T. Thompson, *Australia and the Bible* (1935)

Bibliographies Although there were early catalogues of library collections, such as the 1899 *Swan River Mechanics Institute Library Catalogue* and J. S. Battye's 1905 *Catalogue of Books in the Public Library of Western Australia*, the first true bibliography of Western Australian materials is Francis G. Steere's *Bibliography of Books, Articles and Pamphlets dealing with Western Australia issued since its discovery in 1616*, published in 1923. It is divided into sections dealing with discovery and early voyages, travel and exploration by land, Aboriginal inhabitants, natural history, historical and general, government and federation, legal, newspapers and periodicals, parliamentary and official, and maps and plans.

The next major bibliography came exactly thirty years later in 1953 when F. K. Crowley's *The Records of Western Australia* was published. A much more ambitious bibliography, it is arranged by function rather than subject and is divided into public records (legislative, executive, judicial and administrative), private records (books, pamphlets and articles, periodicals, theses and reports, manuscripts), bibliographies and manuscripts elsewhere.

Most other bibliographies published in WA relate to a specific theme or subject. These are as diverse as literature—*Western Australian Literature: a bibliography* (1981) and *Western Australian Writing: a bibliography* (1990), both compiled by Bruce Bennett et al.; education—*A Bibliography of the History of Education* (1974), compiled by Ladaan Fletcher; palaeontology—*An Annotated Bibliography of the Palaeontology of Western Australia 1814–1974* (1975), compiled by Patrick Quilty; Indigenous people—*Central*

Australian and Western Desert Regions: an annotated bibliography (1979) and *Kimberley Region: an annotated bibliography* (1968), both compiled by Beryl Craig; the Irish—*Harps in the Mulga: a bibliographical guide to the Irish in Western Australia 1829–2003* (2003), compiled by Anne Partlon; royal commissions—*A bibliography of Western Australian Royal Commissions, select committees of parliament and boards of inquiry, 1870–1979* (1980), compiled by Elmer Zalums; and various regions of Western Australia—*A Guide to Sources for the History of South Western Australia* (1993), compiled by Ron Richards, *A Guide to the Printed Sources for the History of the Kimberley Region of Western Australia* (1996), compiled by Cathie Clement, and *A Guide to the Printed Sources for the History of the Eastern Goldfields Region of Western Australia* (2000), compiled by Richard Hartley.

Many bibliographies have been compiled by the staff of the State Library of Western Australia and the State Records Office and by the Friends of Battye Library. These include: *Dead Reckoning: how to find your way through the genealogical jungle of Western Australia* (1997), which details sources for family history research in the Battye Library and the State Records Office; *Order in the Court: a guide to the records of the Supreme Court of Western Australia* (1990); *Select bibliography of the natural history of the Kimberley Region of Western Australia* (1981); *Shark Bay, Western Australia: a bibliography* (1991); *Our military ancestors: a guide to sources in the J. S. Battye Library of West Australian History and the State Archives of Western Australia* (1991); *Katitjin [electronic resource]: a guide to indigenous records in the Battye Library* (2003); *Bibliography of 16mm Film Produced in Western Australia to 1950 from the State Film Archives of Western Australia* (1993); *Convict Records of Western Australia: a research guide* (1990) and *WA map bibliography, Perth and districts* (2002).

This is only a small sample of the total number of bibliographies written on Western Australian subjects and themes. The topics are diverse and include groundwater, roadside vegetation, vertebrate fauna, women's health, Cossack, metropolitan Perth, government publications, the North-West Shelf, medicine, geomechanics, marine and estuarine studies, grass research, wetlands, road accident research, work, wrecks and forests, to mention but a few. **Steve Howell**

See also: Battye Library; Libraries; State Records Office

Bindoon, heritage Bindoon is a small rural town located 87 kilometres north-east of Perth, gazetted in 1953 when it became the regional centre for the Shire of Chittering. Bindoon is an Aboriginal name thought to mean 'place where yams grow'. It is derived from the name given by an early settler, William Locke Brockman, to his property in 1843. Since then pastoralism and agriculture have been the main industries of the region. In 2005 citrus-growing, vineyards, small construction industries and tourism had also become important.

The heritage significance of the Bindoon area is twofold. Its environmental importance is outstanding. The Bindoon Defence Training Area, which lies within the south-western Australian endemic biodiversity 'hotspot', was placed on the Commonwealth Heritage list in 2004 because its relatively undisturbed forest and woodland habitats, adjoining the Julimar State Forest, contain a remarkably high diversity of flora, including endangered species, and threatened fauna.

Bindoon's cultural heritage importance centres on the Catholic Agricultural College, which is a group of substantial buildings that dominate the rural landscape in which they are almost nonsensically situated. Opened in 1937, at a time when child migration and child welfare policies were implemented by the Australian and British governments, St Joseph's School at Bindoon was one of four residential institutions established by the Christian Brothers as part of an integrated scheme for the purpose of educating and training orphaned and migrant boys and other socially disadvantaged children in farm and trade.

The boys themselves were responsible for the construction of the school and this was completed under the direction of such architects as Dom Urbano Gimenez of New Norcia and architect-priest Monsignor John Cyril Hawes, as well as builders like immigrant stonemason Joe Pascoli. The school has strong associations with Brother Francis Paul Keaney, who became well known through the 1938 release of the Hollywood movie *Boys' Town*. Keaney was the principal from 1941 to his death in 1954, and for twenty-eight years the school was known as Keaney Agricultural College. The Catholic Agricultural College in Bindoon now serves as a tangible reminder of the experiences of boys who lived and worked there. **Kristy Bizzaca**

See also: Child migration; Education, Catholic; Environment; Mid West
Further reading: B. M. Coldrey, *Child migration and the Western Australian boys homes* (1991); B. M. Coldrey, *Francis Paul Keaney and child care in Western Australia* (1991); B. M. Coldrey, *The scheme: the Christian Brothers and childcare in Western Australia* (1993); L. P. Welsh, *Geordie: orphan of the empire* (1990); L. P. Welsh, *The Bindoon file* (1990)

Birth Until the early twentieth century most Western Australian women gave birth at home attended by other women, their husbands, or, if they could afford it and one was available or accessible, a midwife or a medical practitioner. White settlers were occasionally tended by Aboriginal women. Some women became skilled midwives, such

as Mrs Elizabeth Dodd, who married at fourteen, moved to Moora after the death of her husband in 1895 and delivered more than a hundred babies before she retired at the age of eighty-two.

Although there were no midwives or nurses listed in early censuses, women often had nursing and midwifery skills. By the 1880s a few trained midwives had moved to Western Australia. Some gained formal qualifications. Helen Scot, who arrived in Fremantle in 1831, acquired her skills from her doctor father. After her husband's death she practised as a nurse and midwife in Guildford and later Bunbury until her death aged eighty-eight.

Childbirth posed significant risks. Maternal deaths primarily from haemorrhage or puerperal fever were not uncommon. Until the 1930s about 40 per cent of maternal deaths were attributed to puerperal sepsis. The factors that most dramatically reduced maternal and infant mortality were improved standards of living, housing, diet, sanitation, access to clean water, antibiotics and blood transfusions.

Until the early twentieth century most women gave birth at home. Only the very poor gave birth in philanthropic institutions or lying-in homes built by institutions such as the Sisters from the St John of God Hospitals in Subiaco, Perth and Coolgardie. Initially these establishments did not contain facilities for labour and birth; the charity paid the midwife's fee for a home birth and then admitted the woman to the lying-in home to recover. As the colony's medical practitioners became more involved in midwifery they preferred to practise in hospitals, and so began the move of birth from home to hospital. Once standards of maternity care improved, women from more affluent backgrounds chose to birth in either state-run or privately owned maternity cottage hospitals (formerly called lying-in homes). Often these belonged to medical practitioners or midwives, a few becoming Western Australia's first maternity hospitals.

In 1896–97, William Dalgety Moore built a stately home in East Fremantle named 'Woodside', which was used as a hospital from 1924. After purchase by the government in 1951 it was transformed into a 26-bed maternity hospital opening in 1953. In 2006 it was closed, despite significant public protest. King Edward Memorial Hospital for Women (KEMH) opened its doors in 1916. Initially its prime goal was to provide maternity care for poor women. Later it became a training hospital for midwives and doctors, accepting women from all socioeconomic backgrounds.

By the 1930s most Western Australian women gave birth in hospital or cottage hospitals, although most of the latter had closed by the end of the Second World War. As birth moved into hospitals it became a technologically intensive event. From the turn of the twentieth century, doctors could offer women 'twilight sleep'. A combination of morphine and scopolamine created a state in which, although women felt and responded to pain, they could not remember it after the delivery. However, there were serious problems with twilight sleep, which depressed the baby's central nervous and respiratory systems and removed the mother from the birth experience. By the 1960s many women rejected twilight sleep. The era of 'awake and aware' childbirth began, taught by practitioners such as Grantly Dick-Read and Lamaze, and antenatal education classes became popular. Men who were once kept away from the birth were gradually welcomed to the birthing rooms, signalling the era of family-centred care.

Even with improvements in hospitals and childbirth, not all women were satisfied. In WA a few women have continued to birth at home and they and their midwives often face criticism about their choices. Other women prefer to have their babies in the state's only birth centre at KEMH, which opened in 1992 and is designed to provide a home-like atmosphere combined with the technology and resources associated with hospital birth.

Nonetheless, less than five per cent of Western Australian women birth at home or in a birth centre.

Over the last ten years birth practices have undergone significant changes. Women are older when they have their first baby; they weigh more and are more likely to have a multiple birth, sometimes because of IVF treatment. The number of babies they have in their lifetime is reduced and their babies are more likely to survive than a century ago. Advances in medical research mean that women with conditions which fifty years ago meant they had little chance of having a baby can now do so. WA enjoys some of the lowest maternal and perinatal mortality rates in the world. In part this is because of new developments such as IVF, blood transfusions, high powered antibiotics and advances in perinatal care. However, birth has for many women become a surgical event, and almost two-thirds of women expect a pain-free birth and thus demand epidural analgesia. The rate of caesarean sections in Western Australia is now one of the highest in the developed world: from 10 per cent of all Australian births in the mid 1970s, the rate is now about 30 per cent.

In 2003 more than 24,000 Western Australian women gave birth, 99 per cent in rural or metropolitan hospitals. The other births took place utilising the state's only community-based, midwife-led homebirth service or in the KEMH birth centre. **Carol Thorogood**

See also: Abortion; Child health; Contraception and family planning; Infant mortality; King Edward Memorial Hospital (KEMH); Ngala; Public health; Women's health organisations

Further reading: I. Loudon, *Death in childbirth: an international study of maternal care and maternal mortality, 1800-1950*, 1992; C. Thorogood, 'Politics and the professions: homebirth in Western Australia', PhD thesis, Murdoch University, (2000)

Blackbirding 'Blackbirding' is a term that refers to the kidnapping of Aboriginal people for enforced labour. Although it is more commonly associated with the sugar industry and the kidnapping of Pacific Island labourers in Queensland, it was practised in WA from around the 1870s to the 1890s to provide labour for the pearling industry.

Humanitarians in Britain had succeeded in having slavery formally abolished within the British Empire by 1833. Long after that date, however, Aboriginal people in the North-West of WA endured slave-like conditions within the pearling industry, where they were forced to work as crew and dive for pearl shell, as convict labour was unavailable.

Pearlers had arrived in WA in the 1850s, searching for pearl shell along the northern coast. The early pearling industry began in Shark Bay and Cossack in the Pilbara, before moving to the more lucrative pearling grounds around Broome in the Kimberley region. Raiding parties scoured the bush for Aboriginal people to capture, and professional blackbirders publicly advertised prices to abduct Aboriginal people as workers. Aboriginal people were taken from areas ranging from the East and West Kimberley to the Pilbara and beyond—sometimes from as far inland as desert regions—and for many of those abducted, when they arrived in Broome it was the first time they had seen the ocean. Aboriginal women were particularly vulnerable to these practices as they were regarded as better pearl divers than Aboriginal men, and they also faced rape and forced prostitution. Indeed, there were reports of slave markets selling Aboriginal women along the northern coast during the 1870s.

The conditions Aboriginal people faced on pearling luggers were deplorable, with a lack of food, water and sanitation. Venereal diseases and other illnesses such as scurvy, colds, respiratory problems and ear infections were common. Many Aboriginal divers died

from the 'bends' or from ocean predators, and Aboriginal divers who surfaced without pearl shell were commonly beaten. Due to the seasonal nature of the pearling industry it was the practice of some pearling masters to maroon Aboriginal workers on small islands off the coast so they could provide a ready pool of labour. The mortality rate of Aboriginal people left on these islands was high, as they were often abandoned with no provisions and had no way to return to the mainland.

Concerns over the practice of 'blackbirding' and the brutal treatment of Aboriginal people in the pearling industry were voiced in the south of the colony from the 1870s onwards. This led to the introduction of a series of regulatory Acts in 1871, 1873, 1875 and 1880 that prohibited Aboriginal women from working in the industry and introduced tighter controls on the use of Aboriginal labour. Between the late nineteenth and early twentieth century, Asian labour began to replace Aboriginal labour, though Aboriginal people continued to have a presence within the pearling industry. **Blaze Kwaymullina**

See also: Aboriginal culture and society; Aboriginal labour; Aboriginal legislation; Pearling

Further reading: M. K. Hill, 'The regulation of Aboriginal women in the Western Australian pearling industry 1860–1905', Honours thesis, UWA (1994); S. Kwaymullina, 'For marbles—Aboriginal people in the early pearling industry of the north-west', in J. Milroy, J. Host and C. T. Stannage (eds), *Wordal: Studies in WA History*, 22 (2001)

Blessing of the Fleet The Blessing of the Fleet is an annual religious and civic festival held in Fremantle and other Western Australian ports at the beginning of the commercial fishing season. Originating in the traditional customs of Italian fishing

Blessing of the Fleet, Fremantle, 13 October 1957. Courtesy West Australian *(J8415)*

communities, the blessing was first performed at Fremantle in 1936. In September 1948 local Molfettesi fishermen resurrected the blessing ceremony and accompanying festival, and it has been held every year since. In 1950 and 1954 respectively, statues of the Madonna dei Martiri and the Madonna di Capo d'Orlando were introduced into the colourful street procession from St Patrick's Catholic Church in Fremantle to the fishing boat harbour by migrants from the two towns with which the majority of the Italian community were linked, in order that the protection traditionally given by the Virgin would be extended to the seas off Western Australia. By its twentieth anniversary celebrations in 1968 the *festa* was established as a significant social and spiritual event, having grown to involve members of the Portuguese community and regularly attracting visiting dignitaries and large crowds of sightseers. Since the 1970s, blessing ceremonies and festivals have also been held for the fishing fleets at Esperance, Geraldton, Jurien, Kalbarri and Lancelin. **Joseph Christensen**

See also: Catholic church; Fishing, commercial; Folklore; Fremantle; Italians; Multiculturalism

Further reading: R. and M. Bosworth, *Fremantle's Italy* (1993); R. Bosworth and M. Melia, 'The Italian Feste of Western Australia and the myth of the universal church', in R. Bosworth and M. Melia (eds), *Aspects of ethnicity in Western Australia: Studies in WA History*, 12 (1991); A. Wayne, 'Spirituality and its Spatial Dimensions: the Parish of St Patrick's Church Fremantle 1948–1962', in J. Gregory (ed.), *Historical traces: Studies in WA History*, 17 (1997)

Blue Funnel Line (Ocean Steam Ship Co.), established by Alfred Holt in 1865 in Liverpool, England, gained a worldwide reputation for reliability of service and the sound construction of its ships. Holt's vessels first appeared in Western Australian waters in 1891 to capitalise on the needs of the growing colony, providing a vital feeder service to Britain via the north-west ports and Singapore. The *Sultan*, a vessel specially built for the trade, opened Fremantle Harbour in 1897, reputedly with Lady Forrest at the helm.

'Blueys' nearly always carried Greek names, which were often re-used. Two successive *Gorgons* (1908–28, 1933–64), two *Charons* (1903–25, 1936–64) and two *Centaurs* (1924–43, 1963–82) were specially designed to withstand the extreme tidal conditions in north-west ports and to accommodate the live sheep and cattle trade, transport refrigerated products, general cargo and passengers. In recognition of their role in the development of the west coast they were the only foreign ships allowed to trade without permits and, because of their Asian crew, were sometimes referred to as the 'black ships' (officers and engineers were British). The voyages to Singapore and Malaya were always popular with holidaymakers, including single women hoping to land a wealthy plantation owner—hence another nickname was 'the fishing fleet'.

To others the vessels were known as the 'schoolships'. By the mid 1950s up to 250 schoolchildren (nearly double the normal passenger loading) of expatriate British and Australian families based in Singapore and Malaya were taken home at Christmastime and returned at the beginning of the school year to Protestant and Catholic boarding schools in Australia, principally in Perth. Additional beds were placed in cabins, and public areas became dormitories, though no extra staff were employed to supervise. This service continued until the advent of affordable air travel in the early 1960s.

During the Second World War the ships were requisitioned by the Australian government to transport supplies and troops. *Centaur*, converted to a hospital ship, was sunk off the Queensland coast by a Japanese submarine with the loss of 268 lives. A new state-of-the-art *Centaur* took over from *Gorgon* and *Charon* in 1964, until the service ended in 1982 due to its inability to compete with improved land and air transport. **Juliet Ludbrook**

See also: Education, Catholic; Education, independent schools; Merchant shipping; Second World War

Further reading: M. Falkus, *The Blue Funnel legend: A history of the Ocean Steamship Company, 1865–1973* (1990); J. Ludbrook, *Schoolship kids of the Blue Funnel Line: Western Australian Service* (1998); C. S. Milligan and J. C. H. Foley, *Australian hospital ship* Centaur*: The myth of immunity* (1993)

Boat and ship building have been central to Western Australia's economy, reflecting its economic highs and lows, with the state in 2006 leading Australia in commercial and leisure boat-building.

Sea-going Aboriginal people from the North-West built raft and bark canoes for hundreds of years, copying dug-outs brought by Macassan fishers, with whom they traded from the 1600s. The first non-Aboriginal craft constructed in Terra Australis was *Sloepie*, built from wreckage of the Dutch East India-man *Zeewijk* in 1727, to carry shipwreck survivors to Batavia (Jakarta). James Lawson Smith was the first official boat-builder. Chosen by Lieutenant-Governor Stirling, his initial task in 1829 was to repair the damaged *Parmelia*, the vessel that conveyed colonists to the Swan River colony.

Lack of roads and infrastructure in the colony ensured that boat-building remained lucrative, providing the vehicles for coastal and waterway exploration, communications, trade and commerce. Early export indus-tries—fishing, whaling and pearling—relied on shipping. With jarrah and karri timber in plentiful supply, boat-builders like Mews and Lawrence, rather than farmers, prospered. T. W. Mews founded a boat-building dynasty in 1832 that lasted 150 years. William Lawrence, an American who jumped ship in Albany in 1841, with his siblings William and Samuel built over seventy large vessels, as well as countless small craft, in just over a century.

In the 1850s Shark Bay pearl shell created a demand for pearling luggers, with over three hundred luggers for the Broome pearling fleet built at Perth and Fremantle between 1899 and 1907. After the First World War many luggers were built in Broome by Aboriginal, European and indentured Asian labourers employed by master pearlers like Streeter and Male. Affluence in the 1890s also created a boom in leisure craft. For the next fifty years ship and boat building was based predomi-nantly on wooden hulls powered by wind and sails, or steam.

During the Second World War, ship and boat yards were dedicated to the war effort. The WA government founded the state shipyards and in the space of a few years constructed twelve vessels each weighing in excess of 300 tons, some of the largest wooden vessels constructed in the state.

Post-war migration brought an influx of experienced European boat-builders, ship-wrights and fishermen and a renewed vitality to the design and construction of watercraft. The 1960s mining boom and changing export conditions also revitalised maritime invest-ments in the rock lobster and prawn fisheries. The change in construction from carvel-built wood to ply, metal-hulled and fibreglass high-powered craft created the need for regulation. In 1976 the Universal Shipping Law Rules were introduced to control the specifications for the construction of commercial watercraft and were interpreted by naval architects such as Len Randall, Drago Sambrailo (a migrant from Dalmatia), Harry French (an English migrant) and others, who designed and devel-oped vessels for the rock-lobster industry.

Northern prawn fisheries produced the K-Class trawlers built by the Greek migrant M. G. Kailis. Offshore oil activities boosted ship-building yards like Dillingham's, and Australian Shipbuilding Industries founded by the Dutch migrant Verboon family.

The 1960s boom in leisure and sports craft was exemplified in the pursuit and attainment, in 1983, of the America's Cup by *Australia II*, built by second-generation builder Steve Ward. Other achievements of excellence further boosted the profile of ship-building, making the state a world leader in design, construction, fitting out and maintenance of boats and ships, including high-speed aluminium ferries, patrol boats and pleasure craft. Growth in national defence also increased ship-building activities so that by the year 2000 WA boasted a boat-building industry based in Cockburn Sound and serv-ing international markets through companies like Austal Ships (Oceanfast) and Tenix. **Bill Leonard and Sally R. May**

See also: America's Cup; Fishing, commercial; Pearling; Whaling; Yachting

Further reading: F. Broeze and G. Henderson, *Western Australians & the sea: our maritime heritage* (1986); R. Dickson, *They kept this state afloat: shipbuilders, boatbuilders and shipwrights of WA, 1829–1929* (1998); M. Stanbury, *Norwegian Bay Whaling Station: an archaeological report* (1985)

Boer War The Boer War, principally between Great Britain and the two Boer Republics in South Africa, provided the opportunity to demonstrate that the granting of responsible government in 1890 had been justified and that Western Australia could meet the expectations of a self-governing colony. Support for the imperial cause in South Africa was popular. In WA between November 1899 and May 1902 more than 1,200 men volunteered to serve in South Africa.

The 1st Contingent, five officers and 125 men under the command of Major H. G. Moor, left Albany on 7 November 1899, arriving in Cape Town on 27 November. The contingent was accompanied by infantry companies from other Australian colonies. In Cape Town these companies were amalgamated to form the First Australian Regiment, the first time that a unit representing the various Australian colonies had been formed for active service. In total, six contingents from WA (mounted infantry and bushmen) and three Australian Commonwealth Horse battalions (2nd, 4th and 8th) from WA served in the Boer War.

The 1st Contingent saw action on 9 February 1900 at Slingersfontein. The action and location were given the name of 'West Australia Hill' in honour of the contingent's brave stand against superior forces. The first Victoria Cross awarded to a Western Australian was to Lieutenant Frederick William Bell, West Australian Mounted Infantry, for gallantry at Brakpan, Transvaal, on 16 May 1901. The Fallen Soldiers' Memorial in Kings Park commemorates Boer War service and lists forty-one casualties. **Robert Mitchell**

See also: Army; Empire, relations with; War memorials

Further reading: M. Hyam, 'A South African Memorial', *The Aiming Post* (June 2000); P. L. Murray (ed.), *Official records of the Australian military contingents to the war in South Africa* (1911); R. L. Wallace, *The Australians at the Boer War* (1976); J. Sweetman, 'The South African War Memorial, *Museum News* (July 1987)

Book groups The forerunners of book groups in Western Australia were literary institutes, the Karrakatta Club, ABC radio programs and The University of Western Australia's Box Scheme. Perth's Swan River Institute, established in 1851 and renamed the Perth Institute in 1909, was the main source of book loans in Perth during the nineteenth century. The Institute, like later book clubs, offered early colonists the opportunity to meet to study literature and debate world events. The earliest form of organised literary discussion occurred with the foundation of the Karrakatta Club in 1894, the first women's club in Australia.

In the 1930s the Adult Education Board established the Box Scheme, a fortnightly rotation by rail of books and accompanying notes prepared by UWA academic staff, covering a variety of subjects including literature, economics, philosophy, music and agricultural science. The Box Scheme could be considered the model for today's book groups, for by the mid 1950s it had fostered interest in small-group literary gatherings in city and rural areas.

In 1930 the ABC provided daily fifteen-minute programs for women listeners, focusing on topics such as health and hygiene, beauty, household hints, sewing and cookery. In the 1940s Catherine King organised and compered a women's session that included Talk about Books and Companionable Books. The program was heard regularly for twenty-two years. In 1963 *The*

West Australian described this new image of independence and desire for intellectual stimulation for women within their home as 'a monthly escape from domestic chores and children…a book club to keep women's minds alert and acquainted with modern literature'.

Subsequently, people began to form their own book groups. By the mid 1970s book hire schemes such as the Arts Access Scheme and Kalamunda Learning Centre were introduced. As that decade closed, book groups were becoming an integral part of the state's literary service.

Diversity was the key to the 1980s and 1990s. Mixed gender and themed groups began to meet in book cafés, retirement villages, shire libraries and recreation centres. The Association for the Blind established talking book groups. While predominantly comprised of women, there were also mixed gender and all-male book groups in WA, a pattern common across Australia. During the first decade of the twenty-first century, book groups remain a significant force in the lives of many Western Australians. **Patricia Valentine**

See also: Libraries; Mechanics' institutes
Further reading: J. Hartley and S. Turvey, *The reading group book* (2003); S. Osborne, *Bloomsbury essential guide for reading groups* (2002)*;* P. Valentine (ed.), *Why book clubs?* (1996)

Book publishing in Western Australia did not begin in earnest until the mid twentieth century. Before that time most books emanating from this state were published in London, Melbourne or Sydney. Within WA, printing companies Sands and McDougall, M. Shenton, Stirling & Son, E. S. Wigg, R. S. Sampson, The Imperial Printing Co., C. H. Pitman, Paterson's Press (later Paterson Brokensha) and Pilpel sometimes carried out the dual functions of printing and publishing.

Since its embryonic years as the University Text Books Board, established in 1935, The University of Western Australia Press set standards locally for the professional refereeing and publication of works about the environment, history and culture of Western Australia and beyond. Books for children (under the Cygnet imprint) and works of general interest have been part of the Press's repertoire since the mid 1990s. The Staples imprint was created as a result of a donation from Charles and Joy Staples in 1985 to publish books on the history and industry of the South-West. Publishers at the press have included John O'Brien (1964–72), Vic Greaves (1973–89), Ian Drakeford (1992–97), Jenny Gregory (1997–2006) and Terri-ann White (2006–). Leadership by senior members of the university community, including its longest-serving chair, Geoff Shellam (1991–2006), has contributed to the Press's successful creation of a bridge between academic expertise and a wider community of readers.

In 1968 there was a brief foray into publishing in WA by Australian publishers Cheshire and Jacaranda Press, under the imprint Landfall Press.

Fremantle Arts Centre Press was founded in 1976, under Ian Templeman's leadership. Under the direction of Clive Newman and Ray Coffey since the 1990s, the Fremantle Arts Centre Press has published across the genres of biography, the visual arts, children's literature, poetry, fiction and history. Two autobiographical works, A. B. Facey's *A Fortunate Life* (1981) and Sally Morgan's *My Place* (1987), were bestsellers and helped to establish the Press's name. John Kinsella's poetry and prose have further strengthened its literary reputation since the 1990s. Collaboration with Curtin University (2003–06) bolstered the Press's credentials as a publisher of serious but accessible work. Subsidies from the WA state government and the Australia Council for the Arts have enabled the Press to avoid being market-driven.

Other small publishers in Western Australia have a special focus. Thus the WA Museum has published books by museum staff since the late 1960s. Hesperian Press, founded by Peter Bridge in 1979, has specialised in Westraliana, especially works of historical interest; and since 1984 Magabala Books in Broome has published Indigenous works. Access Press (established by Helen Weller as Artlook Books in 1981) is another small publisher. **Bruce Bennett**

See also: Aboriginal writing; Children's literature; Fiction; Journals and magazines; Life writing; Literary awards and prizes; Magabala Books; Poetry; Science fiction and fantasy; Writers' centres and organisations
Further reading: B. Bennett (ed.), *The Literature of Western Australia* (1979); B. Bennett, P. Cowan, J. Hay and S. Ashford, *Western Australian writing, a bibliography* (1990); C. Fitzgerald, *A press in isolation: University of Western Australia Press 1935–2004* (2005); M. Lyons and J. Arnold (eds), *A history of the book in Australia, 1891–1945: a national culture in a colonised market* (2001)

Border, Western Australian Western Australia's land border with the eastern states is thought to date back to 1492 and to the enmity between the then great Catholic colonisers Spain and Portugal. That year Pope Alexander VI, in a bid to preserve peace between the two powers following Columbus's explorations, decreed that the Earth should be divided down the middle along a line that became known as the Pope's Line, just fifty-one degrees of today's longitude west of the universal meridian now based upon Greenwich in London. Accordingly, the Spaniards were allowed to claim title to that part of Earth to the west of this line and the Portuguese would claim all to the east. The Pope's Line was ratified between the then two greatest maritime states as the Treaty of Tordesillas in 1494. The same meridian line,

around our side of the earth, becomes 129 degrees of east longitude.

Britain did not at first claim the whole continent of Australia. Captain Arthur Phillip was commissioned to claim New South Wales from the east coast only as far west as 135 degrees east longitude. Governor Darling extended that, under the terms of his commission, to 129 degrees east in 1825. There is no obvious geographical feature to account for this. Today, the Pope's Line, conceived in 1492 and ratified in 1494, still marks Western Australia's land border. **Ean McDonald**

See also: Annexation, acts of
Further reading: E. L. McDonald, *Finders keepers, or Terra to let, or Who put Australia on the map?* (2001)

Botany Plants collected by early explorers were studied by European botanists, but with the first settlers came James Drummond who soon began to collect botanical specimens. Others such as Georgiana Molloy also sent specimens to England. Interest was mainly in identifying the unique native flora of the South-West. Drummond wrote articles for *The Inquirer*, there being no local literature to assist settlers in naming plants. They relied on communication with botanists in England (mainly at the Royal Botanic Gardens, Kew) and a few (mainly British) books and journals. Ferdinand Mueller, appointed government botanist of Victoria in 1853, gave every assistance and encouraged settlers and explorers to collect specimens. The appearance of George Bentham's seven-volume *Flora Australiensis* (1863–78) was a major advance, but using it required specialist knowledge and new species were continually being found that could not be identified.

From the 1890s, staff of the Western Australian Museum attempted to identify plants and built up a small herbarium. The Bureau, (later, Department) of Agriculture (established

1894) also developed a herbarium under first government botanist Alexander Morrison, concentrating on weeds and toxic plants. Scientific papers describing new species began to appear locally. The Forests Department (established 1918) also began a collection, boosted by the appointment of Charles Gardner in 1920. In 1929 these herbaria were combined to form the State Herbarium, with Gardner as Government Botanist. In 1984 the Forests Department was combined with the Wildlife Research Centre of the Department of Fisheries and Wildlife (with the Herbarium added in 1987) to form the Department of Conservation and Land Management, which expanded research into the classification and biology of the state's plants and animals. In July 2006 it was renamed the Department of Environment and Conservation.

From the time of European arrival, weeds became a problem as some non-native plants, brought in accidentally or intentionally, found conditions to their liking and swamped both the native flora and crops. Another early problem was loss of grazing stock, and Drummond determined that certain pea flowers were toxic. Commercial interest developed in native timbers and early scientific publications on botany concentrated on the forest resources. As exploration moved inland and northwards there was great interest in plants of grazing lands. Agricultural botany has been directed towards developing crops and pastures best suited to the conditions, from the South-West to the Kimberley. Dealing with problem plants—native toxic species, weeds, plant pathogens—now costs many millions of dollars annually.

At The University of Western Australia (UWA), a Biology Department was formed in 1914 and initiated studies on the flora. Early staff included William Dakin, Ruth Reed (later Johnson) and Alison Baird. In the 1930s, Biology was divided into the departments of Botany and Zoology. Brian Grieve, appointed as head of Botany in 1947, gradually widened the scope of teaching and research (continued by later appointees) to cover anatomy, ecology, genetics, life forms, molecular studies, mycology, palynology, phenology, phycology, physiology and systematics. John Pate, appointed to head the Department in 1974, greatly stimulated research on a broad front centred around physiology. In 2003 the department was subsumed into the Faculty of Natural and Agricultural Sciences. Departments incorporating botany with environmental and other studies were also established at the Western Australian Institute of Technology (later Curtin University of Technology), Murdoch University, and Edith Cowan University.

In the field of palaeobotany, Basil Balme, David Churchill, Isobel Cookson, Ludwig Glauert, Robert Hill, Brian Logan, Stephen McLoughlin and Kenneth McNamara have done significant work. Of world significance are the stromatolites, discovered as 'living fossils' at Shark Bay in the 1950s, then later at other sites and also as true fossils, 3,500 million years old, in the Pilbara.

Aboriginal knowledge of plants has been gathered by Europeans since early contact, with recent recorders including Ian Crawford, Sarah Meagher and Peter Bindon at the Western Australian Museum.

Not until 1962 was a botanic garden established in Kings Park, its first director John Beard (1962–71), followed by Paul Wycherly (1971–92), Stephen Hopper (1992–2004) and Mark Webb (2005–). The garden has concentrated on Western Australian plants. Beard also expanded knowledge of the occurrence of the state's plants, begun by Brown in 1814, followed by Mueller, Diels, Gardner and Burbidge. Beard produced the first detailed vegetation maps for the state. The advent of the computer also greatly increased the capacity to analyse data, for example with FloraBase, a descriptive, illustrated catalogue of the state's flora, produced by the WA Herbarium.

Botanical studies have featured prominently in conservation, and efforts have

been made to conserve both common and rare species in natural areas. In 2004 a chair of conservation biology was established at UWA, with Stephen Hopper as the foundation professor.

Until 1950 a major impediment to studies was the lack of comprehensive, accurate works on the state's flora. Bentham's *Flora* remained the standard work, with Gardner's census of 1930–31 giving names but no means of identification. Several popular books covered a few colourful species. Over the past fifty years, however, there has been a steady flow of books, papers and electronic aids, leading to a much wider understanding and appreciation of Western Australia's flora.

Amateur botanists have made major contributions—in particular Emily Pelloe (books and popular articles on wildflowers), William Blackall (illustrated keys to assist identification of wildflowers), and Rica Erickson (books on orchids, triggerplants and carnivorous plants, as well as botanical history). These three illustrated their work, but from the beginning Western Australia's flora has attracted artists working in various media (watercolour, oil, ink, photography). Besides illustrations to accompany scientific research, there have been important works by resident artists such as Edgar Dell, Patricia Dundas, Ellen Hickman, Patricia Negus, Philippa Nikulinsky, Margaret Pieroni, Katrina Syme and Margaret Menadue/Wilson. Outstanding non-resident artists of Western Australian plants have included Ferdinand Bauer, Robert Fitzgerald, William Nicholls and Celia Rosser.

Until the 1950s horticultural botany concentrated on exotic plants (apart from a few species such as Geraldton Wax), but then began a groundswell of interest in indigenous plants. Two nurserymen, Fred Lullfitz and Alf Gray, were the pioneers. The Western Australian Wildflower Society, formed in 1958, stimulated interest. Community involvement in conservation has focused attention on native flora, especially preservation through cultivation.

While botanical research has been concentrated on flowering plants, significant advances have been made with other groups. Most important in the early years was a study of seaweeds by visiting Irishman William Harvey. The twentieth century saw major contributions by locally based botanists such as Gordon Smith and John Huisman (seaweeds), Roger Hilton and Neale Bougher (fungi), Jacob John (diatoms), and non-residents such as George Scott (mosses, liverworts) and Jack Elix (lichens). **Alex S. George**

See also: Collections, algae; Collections, plant; Exotic plants and weeds; Kings Park and Botanic Garden; Murdoch University; Mycology; Scientific literature; Scientific societies; University of Western Australia; Vegetation; Western Australian Museum

Further reading: B. J. Grieve, 'Botany in Western Australia: a survey of progress: 1900–1971', *Journal of the Royal Society of Western Australia*, 58 (1975); G. Paczkowska and A. R. Chapman, *The Western Australian flora: a descriptive catalogue* (2000); J. Skene, 'The power of naming: women botanical collectors and the contested space of 19th century botany', in J. Gregory (ed.), *Historical traces: Studies in WA History*, 17 (1997)

Boxing The influx of men to the Eastern Goldfields during the 1890s gave a significant impetus to the sport of boxing. Most boxing activities throughout the Eastern Goldfields region focused on sideshows, which became a popular spectator sport at the Royal Western Australian Agriculture Society shows early in the twentieth century. By the time of the Second World War, travelling sideshows were a feature of annual agriculture shows at many country towns. Aboriginal boxers were prominent and successful in these shows.

George Stewart became the state's best-known sideshow owner. His boxing troupe, formed just after the finish of the Second World War, continued for a quarter of a century until

his retirement in 1971. Tentfighters fought exhibitions and took on challengers from spectators for monetary prizes. Particularly in the 1940s and 1950s, the tent boxers were so dominant that Stewart sometimes found difficulty in attracting challengers. His boxers were then encouraged to 'throw' a fight to a challenger, in return receiving one pound (two dollars) 'shame money' in addition to their promised ten shillings (one dollar) competition fee.

In 1939 Paddy Boxall was the first WA boxer to win an Australian professional title when he beat American Todd Morgan on points over fifteen rounds at Hollywood Stadium, Perth. Though boxing declined from the late 1960s due to rising affluence and competing attractions, a number of international-class fighters emerged in the state from 1970 onwards. World-class fighters from WA included super-lightweight Tony Jones and featherweight Tony Miller in the 1980s, and middleweight Lou Cafaro in the 1990s. Jones won the junior World Boxing Council super-lightweight title at Fremantle Oval on 21 January 1987. The title, for boxers not ranked in the top ten in the WBC, later changed its name to the WBC International Championship. World-class Victorian boxer Lawrence Austin, who fought under the name of Baby Cassius, moved to WA in the 1970s. He had three torrid battles in Commonwealth super-lightweight bouts against Queenslander Hector Thompson at the Perth Entertainment Centre in 1977, winning the first and third. The state's best boxer, Danny Green, became Western Australia's first world champion when he stopped Canadian Eric Lucas in the fifth round in Montreal to win the interim World Boxing Council super-middleweight on 20 December 2003. Western Australian success in the amateur ranks has been limited, with only six from the state being selected to compete at the Olympic Games, the first being light-weight William Griffiths in 1956. Other WA Olympic representatives were bantamweight Michael O'Brien (1972), light heavyweight

Danny Green (2000), flyweight Erle Wiltshire (2000), heavyweight Adam Forsyth (2004) and lightweight Anthony Little (2004). Green is the only WA boxer to have won a bout at both the Olympic and Commonwealth Games.

Because of a lack of scrutiny of promoters, boxers and trainers, the state government introduced the *Boxing Control Act* in 1987 and the Western Australian Boxing Commission started in 1991. The organisation later took control of martial arts sports and became the Professional Combat Sports Commission (PCSC) in 2004. The PCSC demands stringent medical recording and examination, and accreditation of all personnel involved in professional boxing and martial arts. **David Marsh**

See also: Empire and Commonwealth Games; Royal Agricultural Society; Sport, Aboriginal people
Further reading: R. Broome, with A. Jacko-mos, *Sideshow Alley* (1998); G. Stewart, *The leveller: The story of a violent Australian* (1979)

Brewing and breweries Western Australians have ranked among the world's most enthusiastic beer drinkers since their first commercial brewery, the Albion, opened in 1837. Twenty years later the Swan Brewery began brewing in central Perth and in 1880 moved to the banks of the Swan River below Mount Eliza. In 1887 Swan's dominance of the local market was secured with the formation of the Swan Brewery Co. Ltd, with links to Melbourne's Carlton Brewery Co. Ltd, Foster Brewery Co. Ltd and with best brewing practices for all beer types including the new lager.

The number of independent breweries in WA has ebbed and flowed. By 1904 Western Australians were drinking on average 109 litres of beer a year each, produced by thirty-eight local breweries. A decline in alluvial gold mining and the outbreak of the First World War reduced brewery numbers

to fourteen. By the end of the Second World War the Swan Brewery had monopolised the state's beer market by absorbing its remaining competitors, the Emu Brewery Ltd in 1927 and the Kalgoorlie Brewing and Ice Co. Ltd in 1945. It became one of the top two employers of labour in WA at a time when Western Australians equalled the world's greatest beer drinkers, Belgians, with an annual per capita consumption of more than 136 litres.

In 1979 the Swan Brewery moved to Canning Vale. In 1982 it became a subsidiary of Bond Corporation Holdings Ltd. The following year Swan sponsored chairman Alan Bond's successful America's Cup challenge. The demise of Bond Corporation led to New Zealand brewer Lion Nathan Ltd's 1992 acquisition of Swan.

The 1986–87 America's Cup challenge in Fremantle gave a newcomer, the Fremantle-based Matilda Bay Brewery (1984), a chance to showcase its wares to an international clientele. In 1990 the Matilda Bay Brewing Co. joined Carlton United Breweries to become part of Foster's Australia. At the beginning of the twentieth century the Swan Brewery had dominated the market through links with CUB and Foster's. A century later, Matilda Bay, a producer of mainstream beers, has done likewise. Foster's has captured 60 per cent of the local market's beer sales.

Western Australians in 2006 have a choice of at least thirty-five different locally produced beers, including light and dark ales, pilsners and stouts. About six boutique breweries bottle exports, regularly creating new brews, with some such as Little Creatures (Lion Nathan has a 30 per cent share) and Foster's Matilda Bay winning international awards. Smaller pub breweries in tourist areas throughout WA are often attached to restaurants, such as Perth's Old Swan Brewery, Bobby Dazzlers and Fremantle's Sail and Anchor. 'You Brew It' factories, found in towns and suburbs throughout the state, offer individuals the opportunity to use their relatively simple brewing equipment to create

about forty different beer types for home consumption. Annual beer consumption in 2003–04 for each adult over fifteen years was 120.4 litres. Despite the popularity of locally produced wines, beer continues to account for more than half the alcohol consumed in WA. **Suzanne Welborn**

See also: America's Cup; Drinking; Food processing; State hotels
Further reading: C. De Mori, *"Time, gentlemen": a history of the hotel industry in Western Australia,* (1987); S. Welborn, *Swan, the history of a brewery* (1987)

Bridges Before the arrival of convicts in Western Australia in 1850, only ten bridges of any significance were built, to take roads and tracks over natural barriers such as rivers. However, by 1862, under the supervision of Royal Engineers, convicts had built 239 bridges. Most were of all-timber construction, although several outside the south-western forests had masonry piers, including two of the oldest bridges still in service, the Chapman River Bridge and Maley's Bridge at Greenough. The first steel bridges were in central Perth, three of them built in the 1900s to carry Barrack, William and Thomas streets over the railway, where larger spans were required than were possible in timber. The use of concrete in bridges was retarded by the plentiful supply of good structural timber and because cement was not manufactured locally until 1920. The first reinforced concrete bridges were built in 1928–29 over the Fortescue and Murchison rivers in the North, where transport costs ruled out the use of timber. At the same time, also in the North, long-span steel beams with timber decking were introduced for high-level bridges over floodways, such as the Gascoyne River. During the Depression, to assist employment in the timber industry, timber bridge construction again became universal, and it was not until

the 1950s that steel and concrete bridge construction became common. Standard designs were adopted for the replacement of railway bridges in steel and for road bridges using pre-cast, pre-stressed concrete units with in situ concrete topping. In the 1960s, large twin pre-tensioned pre-stressed concrete beams were used for long-span standard-gauge railway bridges. The two Causeway bridges (1952) were the first large bridges anywhere to be designed for composite action, in which steel beams and in situ concrete topping act together. The post-tensioned, pre-stressed concrete structure of the Narrows Bridge (1959) incorporated a number of world technical firsts. Similar segmental construction has been subsequently used in the construction of a number of other large bridges, including Stirling Bridge, Riverton Bridge, Mount Henry Bridge and the second Narrows Bridge. **Richard Hartley**

See also: Infrastructure and public works; Roads
Further reading: L. Edmonds, *The vital link: a history of Main Roads Western Australia 1926–1996* (1997); C. O'Connor, *Spanning two centuries: historic bridges of Australia* (1985)

British maritime exploration While anchored at the Cape of Good Hope, Humphrey Fitzherbert, master of the *Royal Exchange*, learned of the newly found Brouwer route to the Indies. Following that track, in July 1620 he sighted land somewhere near present-day Point Cloates. Thus he became the first Englishman to provide a record of the Australian coast.

The next was John Brookes, master of the *Tryall*. In May 1622, while following Fitzherbert's track, he saw land '10 leagues' further north, but in heading further east on 25 May he was wrecked on reefs north of the Montebello Group. Before setting off to Batavia in a small boat, he landed on one of

the islands, becoming the first Englishman to land on Australian soil.

The first Britons to set foot on mainland Australia were the crew of the privateer *Cygnet*, which arrived at King Sound in early 1688. On board was William Dampier and, in following the Dutch in dismissing New Holland and its inhabitants—in what was to prove a hugely popular and widely disseminated account—Dampier helped fix negative attitudes that were to remain commonly held for another century. In 1699 he was given command of HMS *Roebuck*, primarily with the intention of exploring the east coast of New Holland. Approaching his objective from the Cape of Good Hope, he discovered, charted and named 'Sharks Bay'. Moving further north he landed in the archipelago that now bears his name and just south of Roebuck Bay. While on the coast he also provided an account of its flora and fauna and collected specimens, becoming the first Briton to do so. While he sailed on to make significant discoveries around New Guinea, with a stricken ship he stopped just short of his objective and returned home, producing yet another bestselling work, *A Voyage to New Holland.*

The loss of territory to the British on the North American continent in the late 1750s caused the French to actively look elsewhere for colonies, commencing what in effect was a 'superpower' race to also locate the mythical Great Southland. In 1766 the British navy sent two ships under Wallis and Carteret to the South Pacific and the French dispatched Bougainville with the same intention just three months later. In 1768, James Cook departed on a scientific voyage with secret instructions to explore the south Pacific. This led to him discovering New South Wales in 1770, but left unanswered the question, was there a vast strait passing between New Holland and New South Wales? From 1790 Britain and France were at war, and, given that a British settlement had already been established at Sydney Cove, there was fierce

competition for access to the South Land and to Western New Holland. It was no accident then to find British and French exploration teams leaving Europe for the south seas almost in tandem.

The first 'pair' was Vancouver and D'Entrecasteaux, and in September 1791 George Vancouver cautiously approached the south-west coast of New Holland in HMS *Discovery*, 'not choosing to make too free with a coast entirely unexplored'. There he discovered and named King George the Third's Sound, took possession of the country for his king and judged it healthy and temperate. On leaving for North America on 11 October 1791, Vancouver made a running survey for about three hundred miles along the coast to Termination Island. Unlike the French who landed on Dirk Hartog Island in 1772 and annexed the coast for France, the British were eventually to land settlers, thereby cementing and guarding their claim.

The next 'pair' was Flinders and Baudin: in December 1801 Matthew Flinders, in HMS *Investigator*, sighted 'the south-western point of Leeuwin's Land'. Although not instructed to explore it, he sailed as close to the coast as he dared and soon he was able to enter Vancouver's newly found sound and to explore Oyster Harbour and Princess Royal Harbour within, as did the French in 1803. Unlike Dampier, Flinders' and the French accounts of the Indigenous people and the land were positive; and Flinders, with natural history painter Ferdinand Bauer and the naturalist Robert Brown prolific in their work, continued his running survey of what is now the Western Australian coast until January 1802.

The Admiralty sent Phillip Parker King RN to continue Flinders' work, and between 1817 and 1822, in cutter *Mermaid* and brig *Bathurst*, King made five gruelling voyages. In December 1817 King left Sydney, called at King George the Third's Sound and explored the coast from North West Cape to the Dampier Archipelago. In September 1819, back in Western Australian waters that had been just recently vacated by Louis and Rose de Freycinet, King discovered and named the Cambridge and Admiralty gulfs and many other features, among them the Coronation Islands. He also discovered the Prince Regent River, then made a desperate dash in a sinking cutter through the Southern Ocean back to Sydney. In July 1821 King further explored the Kimberley coast, charted the Buccaneer Archipelago, visited Mauritius to refit, and returned in February 1822 to explore the northern part of what is now named King Sound.

In 1829 John Septimus Roe, who had been King's right-hand man for five years, returned to Western Australia as the first Surveyor-General of the Swan River colony. For the next twenty years he explored the colony extensively, and on his last expedition in 1848–49 he travelled eastward along the south coast beyond Esperance Bay to Cape Pasley.

John Clements Wickham, arriving off the Western Australian coast in HMS *Beagle* in January 1837, told his men that they were about to explore parts never seen before by European eyes. His instructions were to investigate 'the two deep inlets connected with Roebuck Bay and Cygnet Bay' as the strong tides there suggested the existence of a strait or powerful river. The *Beagle* spent a week in Roebuck Bay while her surveying officer, John Lort Stokes, made extensive boat explorations that disproved this. Wickham then sailed north to name King Sound, and from their anchorages Stokes made extensive boat expeditions in the Buccaneer Archipelago and the southern part of the sound, discovering and naming the Fitzroy River. In April/May 1840 Wickham and Stokes returned in the *Beagle* to Western Australia, exploring and charting the 'Houtman Rocks' and the unknown coast eastward of Depuch Island. The period of British exploration of Western Australian waters effectively ended with the *Beagle*'s work there. In 1858, when Henry Mangles Denham arrived in HMS *Herald* with a new

breed of 'scientifically-trained' hydrographers, as Geoffrey Ingleton puts it, 'gone were the explorer-surveyors of earlier days'.

After that, other Englishmen, acting under no authority in their small schooners, cutters, ketches and yawls, informally examined Western Australia's shores and helped open up the country to settlement and industry. Their romantic and still largely unsung story is also part of the history of British maritime exploration of Western Australia. **Marsden Hordern and Michael McCarthy**

See also: Dutch maritime exploration; French maritime exploration; Historical imaginings
Further reading: M. C. Hordern, *King of the Australian coast: the work of Phillip Parker King in the Mermaid and Bathurst 1817–1822* (1997); D. Preston and M. Preston, *A pirate of exquisite mind: the life of William Dampier: explorer, naturalist, and buccaneer* (2004); E. Scott, *The life of Matthew Flinders* (2001); P. Watts, J. Pomfrett and D. Mabberley (eds), *An exquisite eye: the Australian flora & fauna drawings 1801–1820 of Ferdinand Bauer* (1997)

Broome, the most exotic of the Kimberley towns, overlooks picturesque Roebuck Bay. Gazetted as a townsite in 1883, the place was slow to develop. Pearlers and their crews occasionally went ashore but they generally worked out of Cossack or Thursday Island, or from Asia. That situation delayed the full impact of European colonisation on the locality's Aboriginal people.

The richness of the local pearl shell beds encouraged pearlers to relocate, and by 1889 the Roebuck Bay pearling fleet consisted of 200 boats and a workforce of 1,200 men. Broome met their needs with a cable station (for overseas cables), a telegraph station (for colonial telegrams) and a store (Streeter & Co., pearlers and pearl merchants). Other services followed, and the area near Streeter's Jetty became known as 'the Native Quarter' or

'Jap Town', and, much later, as 'China Town'. The best street frontages carried stores and hotels operated by Europeans, while the less valuable land carried smaller premises that were predominantly leased by people of other races. The town's racial mix created tensions—ashore and at sea—and in 1907, 1914 and 1920 the occasional episodes of violence escalated into riots.

Depressions, wars, and a reduced demand for pearl shell impacted heavily on Broome, but the town and its pastoral hinterland rallied after each decline. The impact of the First World War was mostly economic, but in March 1942 the Japanese brought the war to Broome with an air raid that killed service personnel and people who were being evacuated from Java.

Today, with its population exceeding 13,000, many of Broome's residents proudly proclaim their multicultural history. The town benefits from tourism, livestock exports and the production and sale of cultured pearls. Visitors reflect on history and culture as they stroll down John Chi Lane and along the adjacent streets. The heritage buildings there include Streeter & Co.'s former store, Sun Pictures (1916), and the store where the Chinese pearl dealer Louey Ling Tack once worked. The former cable station serves as the courthouse and, at the other end of town, adjacent to a long-demolished government jetty and tramway, the Broome Museum occupies the former customs house. Elsewhere, the master pearlers' influence is evident in the graciousness of some of the town's homes and in buildings such as Matso's, one of the places restored through Lord Alistair McAlpine's commitment to property development in Broome during the 1980s. **Cathie Clement**

See also: Aboriginal music; Asian immigrants, nineteenth century; Blackbirding; Communications; Frontier violence, Kimberley; Kimberley; Magabala Books; Pearling; Race riots; Second World War; Tourism

Further reading: C. Shaw, *The history of Broome's street names* (2001); S. Sickert, *Beyond the lattice: Broome's early years* (2003); S. Yu and C. Tang Wei, *The story of the Chinese in Broome* (199-)

Buddhism in nineteenth-century Western Australia was associated with the individual religious practices of Chinese sojourners and immigrants. Described as Pagans in early census records, Buddhists were first enumerated in the 1891 census, which recorded 1,080 Buddhists in WA (only fifty of whom were women). No trace of their religious customs is known to remain, but documentary evidence suggests that many worshipped at shrines in their dwellings and that Buddhist practices were used at Chinese burials.

In 1911, a decade after the introduction of the White Australia policy, there were only 481 Buddhists resident in WA. However, the spread of the influential Theosophy movement in the early years of the twentieth century stimulated interest in Buddhism in WA among Europeans. In 1908, for example, the same year that Annie Besant, world president of the Theosophy movement, visited Perth, an Englishman, Stevenson, ordained as a Buddhist monk, lectured to packed houses in Perth. Buddhism gained currency as an established religion in WA; however, only after the rescinding of the White Australia policy in the early 1970s were Asian immigrants who were Buddhists by birth able to settle in the state.

Buddhists in WA are drawn from all three main traditions—Theravada, Mahayana, and Vajrayana. The earliest and most influential is the Theravada, and followers include both 'convert' and 'ethnic' Buddhists. The latter, mainly from Sri Lanka, Burma, Thailand, Laos and Cambodia (Khmer), have their spiritual and cultural needs served by community-centred Theravada groups and four temples, enabling them to recreate their ethnic identity by reaffirming their religious affiliation.

The foremost Buddhist group in WA is the Buddhist Society of WA, established in 1973 by a group of lay persons with Laksiri Jayasuriya as founding President and now under the guidance of Ajahn Brahmavamso. It functions through the city-based Dhammaloka Buddhist Centre and is linked to two monasteries—the Bodhinyana (1983) and Dhammasara (1998). The Bodhinyana monastery attracts monks and lay persons from many countries for its meditation retreats.

The earliest expression of Mahayana Buddhism in WA dates from the 1960s and was associated with a small assembly of Japanese and local residents. This became the nucleus for the Perth Branch of Soka Gakkai International, established in 1973. The Mahayana tradition, which has the largest representation in Australia, draws heavily on settlers from Vietnam, mainland China, Taiwan and also Japan and Korea. In WA, the increased presence of Vietnamese refugee settlers in the late 1970s led to the formation of the Vietnam Buddhist Association of WA in 1980. Of the other groups, the Fo Guang Shan temple in WA (1998), administered by four nuns, follows the teachings of the Taiwanese Master Hsing Yun. The congregation is drawn mainly from the Chinese community in Perth.

The Vajrayana tradition, based mainly in Tibet, Nepal and Mongolia, follows Tibetan teachings and practices that include a broad range of meditations, tantric practice, chanting and devotionalism. Unlike the other two, this tradition is non-ethnic, and was first introduced into WA in the 1970s when two westerners ordained as Tibetan monks began teaching lay groups.

According to the 2006 census, Buddhism, with 34,349 adherents, accounts for 1.7 per cent of the WA population, twice the percentage recorded in the 1992 census. **Laksiri Jayasuriya**

See also: Asian immigrants, nineteenth century; Asian immigrants, twentieth century; Paganism; Theosophy

Further reading: E. Adam, *Buddhism in Western Australia* (1995); P. Croucher, *Buddhism in Australia, 1848–1988* (1989)

Building construction in Western Australia was slow to develop beyond rural crafts during a first quarter century of hardship. It took some seven decades before the WA construction volume was sufficiently large for standardisation, a further seven decades for wide acceptance of industrialisation, and a further two decades to embrace globalisation.

In the earliest settlements, master and servant alike worked in the rural crafts of thatch, shingle, wattle and daub and other mud-work. Commonly, it was not until two decades later that the skills of itinerant kiln-builders, lime-burners, bricklayers and masons became widely affordable. Convicts transported during 1850–68, under the supervision of military engineers guided by Georgian pattern books, eased labour shortages, but still applied labour-intensive crafts in their construction methods.

During the first fifty years of settlement, readily available building materials were limited to locally produced limestone and clay bricks, with jarrah and she-oak for roof shingles, other local and imported timbers being vulnerable to splitting, decay and termite attack. Roofing materials were supplemented by imported galvanised iron and slates as early as the 1850s. In the 1860–70s timber production progressed from forest pit-sawing, through horse-, wind- and water-powered milling, to steam-powered circular-sawing, the products transported by cart and barge and then by steam-rail. This became a worldwide timber export industry, organised under family corporations.

From the 1890s, peaks in economic activity exactly mirrored good fortune in the mining industry. Coincident with the 1890s gold-boom influx of immigrants, a fully flowered, standardised way of building was imported. This was exemplified by the construction of thousands of cottages, in a limited range of plans (based on the common British 'double-pile' plan) and architectural details, throughout the state. Construction practices were rationalised into builder-coordinated trades: carpentry, joinery, brickwork, stonework, concrete, plastering, metalworking, roofing, roof plumbing, plumbing, electrical and painting, which still remain the basis of building, technical training and specifications.

The establishment of the *Workers Homes Board Act* (1911) and the *Housing Trust Act* (1930), and a minor gold boom in the mid 1930s, produced a second characteristic form of two-bedroom suburban housing, in which living, sleeping and utility functions were clearly defined and related according to rigid social canons. Wealth from gold also led to the erection of a considerable number of major national bank and insurance company buildings in the city of Perth. The construction of
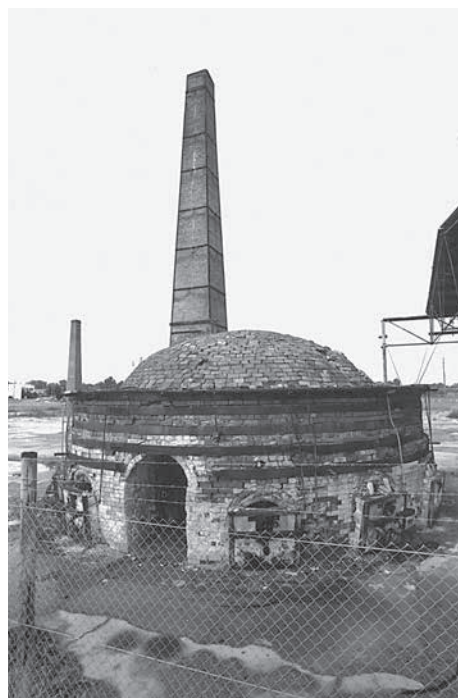
Old Bristile brick kiln (Belmont), 1994, Courtesy Heritage Council of WA (P00868)

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these early high-rise buildings utilised new technologies and building methods. Notable was the ten-storey Colonial Mutual Life building (1936, demolished 1980), constructed with a steel frame and reinforced concrete floors on a raft of girders, clad with a patented artificial stone. Other construction waned in the Great Depression and virtually ceased in the Second World War. It is as if an era of building history has been wiped out.

The immediate post Second World War years were marked by considerable material shortages, rationing and an attendant black market for trade services. These, combined with rapid population growth and massive immigration, led to severe housing shortages. Asbestos (already imported in the early 1900s) was a cheap, readily available residential and industrial building material during this period; its hazardous legacy is now being reaped.

The introduction of the metric measures system (in advance of the UK conversion), unification of manufacturing dimensions ('modular coordination') and the Australian Standards Association are symptomatic of deepening national standardisation in a distinct post Second World War epoch of agricultural, mining and industrial development. Rapid growth in aluminium usage during the post-war period was given status when it was used in notable Perth skyscrapers, such as the MLC building (1957) and Council House (1963).

From the 1950s brick production in mechanised tunnel kilns and courses in bricklaying by the Clay Brick Manufacturers' Association reinforced the ubiquity of brickwork for domestic construction. In the 1960s, residential construction companies, following the example of Landall's Mediterranean Homes and the builder Syd Corser, standardised their product range into 'project-home' designs. Landall's architect, the late Julius Elischer, patented industrialised modular panel products. A short flirtation with steel-reinforced brickwork in the 1960s and concrete block work could not stave off the near universal

use of reinforced concrete. Hand in hand with aesthetic and material minimisation, concrete was extensively used for footings, floors, walls and even roofs. Notably, concrete wall construction since the early 1970s utilised a version of the 'tilt-slab' technique patented by Robert Aiken in 1908 in the USA. These developments were complemented by 'dry' construction in metals, plastics, glass and gypsum, etc.

Also latterly, industry specialisation in materials, forms of construction and types of building and/or engineering (each segment with its representative organisations) has been the target of corporatisation. Widespread elimination of the builder as employer of tradespersons, outsourcing wherever conceivable, and the related impacts on labour and unionism, have contributed to segmentation within the local construction industry and provided opportunities for some to participate in the current moves towards globalisation, notably in the case of the entry of WA company Multiplex into the British market. **Ian Molyneux and Ian Hocking**

See also: Architecture; Asbestos mining; Buildings, commercial; Buildings, public; Housing; Real estate and land development; Suburban development

Further reading: Hocking Planning and Architecture with F. Bush, *Influences on architectural styles and building materials in the South West and Great Southern Regions of Western Australia from the commencement of European settlement to WW2* (1995); I. Hocking, *Perth—the building challenge* (1987); I. Molyneux, *Looking around Perth: a guide to the architecture of Perth and surrounding towns* (1981); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979)

Buildings, commercial The state's commercial buildings can broadly be categorised into periods that reflect times of economic

prosperity and depression in WA. Commercial buildings represent these boom times in particular because of their location on valuable land, which was often subject to redevelopment.

In the early years of the Swan River colony (Colonial Period 1829–1850s), temporary shelters were used by the European settlers. Soon, simple Victorian or Colonial buildings with little to no architectural embellishment were erected and constructed of materials like timber, wattle and daub, stone and brick with shingle roofs. This one- or two-storey form for houses and commercial buildings alike dominated design up to the 1870s. In places like Perth, Geraldton and Albany the majority of these structures have been demolished or obscured by new buildings. In Fremantle, for example, the earlier premises at Samson's Buildings and J. & W. Bateman Buildings were enclosed by substantial brick structures from the gold rushes. In regional areas, especially in locations where the land was not economically viable, places like Gray's Store, Greenough (1861) and Monger's Trading Post, York (1850s–1870s) are still extant as well as a significant number of inns and coach houses, such as Chesterfield Inn, Rockingham (1855) and Picton Inn, Bunbury (c. 1850).

The Convict Period (1850s–1870s) saw the arrival of a number of experienced convict tradesmen, such as masons, carpenters and builders, and with them the Royal Engineers. This brought to Western Australia's building a sophistication that fed into the Gold Boom Period (1880s–1900s) and Federation/Late Gold Boom Period (1900s–1920s). The gold boom meant that more money could be expended on building materials and professional expertise. It also attracted migrant architects and contractors from Victoria, who had an enormous influence in WA in terms of design and the growth of manufactured materials. Both metropolitan and regional centres were transformed from colonial-type landscapes to sites with main streets lined with elaborately styled, multi-storey buildings with detailed stucco mouldings and large timber and iron infill verandahs: for example, High Street, Fremantle; Stirling Terrace, Albany; and Hannan Street, Kalgoorlie. Many town centres throughout WA still have building fabric dating from this period.

With the more substantial design also came changes to the planning of commercial buildings. Increasing prosperity and sophistication saw a focus on the public presence of businesses with sample rooms and shops to the street and offices above. A distinction between private and public life meant that it was no longer standard practice to incorporate living quarters for owners and workers as had previously been done in colonial times. This continues through to the present day.

The Inter War Period (1920s–1940s) was a time of quiet activity significantly affected by local and world events. Building design was affected by the culture of the time as represented in art deco architecture. Structures were frequently 'modernised' with new facades and internal detailing, the height of commercial buildings increased, and the cinema and arcade became a popular form

Central Arcade, Perth in 1939. Formerly Brennan's Arcade and Baird's Arcade. Courtesy West Australian *(HIST5765)*

(Piccadilly Theatre and Arcade, 1938; Plaza Theatre and Arcade, 1937, 1940, in Hay Street Mall). The rapid expansion of the Post Second World War Period (1950s–1970s) saw dramatic changes to planning, design and use of construction materials. The 'skyscraper', a new form of multi-storey building (Council House, 1960–63; and Dumas House, 1965–66) transformed Perth in particular, while architectural styles such as Modern, International, Brutalist and Perth Regional, and the extensive use of materials such as concrete, steel and glass have changed the urban landscape. The period also saw the redevelopment or demolition of many buildings in town centres dating from the Gold Boom and Federation periods, to make way for modern, up-to-date structures. This practice and design form continues in the Late Twentieth/Early Twenty-First Century Period, although heritage awareness has also resulted in the preservation and adaptation of some of the older commercial building fabric.

In regional areas of WA the design and form of commercial buildings were changed to accommodate climatic conditions, particularly in the warmer northern areas of the state where some of the modifications included high-pitched roofs, large verandahs, raised floors and wind scoops. This is reflected in, for example, the Chinatown conservation area in Broome. **Kristy Bizzaca**

See also: Banking; Insurance; Retailing
Further reading: M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979); G. Seddon and D. Ravine, *A city and its setting: images of Perth, Western Australia* (1986); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979)

Buildings, public Public buildings range from small country post offices to major buildings in the Perth Cultural Centre, yet despite differences in function, constructional complexity, scale, location and cultural significance they have much in common. All contribute to the public realm and to a visual sense of the values and aspirations of our society. In Western Australia the history of public buildings was, until recently, primarily the history of the Public Works Department of WA (PWD) and its forerunners.

From 1829 until the disbanding of the Convict Establishment from 1868, engineers/ architects designed most public buildings. Architect Richard Roach Jewell, with a building background, was the significant exception. A comparison between the small Georgian buildings, Old Court House, Perth, 1837 (H. W. Reveley), with the assured Mediaeval Revival buildings, Government House, Perth, 1864 (Colonel E. Y. W. Henderson, R. R. Jewell, J. Manning) and Town Hall, Perth, 1870 (R. R. Jewell, J. Manning) eloquently reveals the progression of the Swan River colony from an uncertain beachhead on a foreign shore to an established, optimistic provincial society.

Gold, responsible government, population growth and Premier Forrest's ambitious policy of public works reinforced the sense of optimism and opportunity during the late 1880s and 1890s. Engineer/architect George Temple Poole was appointed to the newly established PWD in 1885. Under various titles over the years, in essence he served as principal architect until 1897, and was responsible for numerous buildings throughout WA, many now regarded as among the finest in the state (such as the Land Titles Office, Perth, 1897).

The works program was scaled back after Federation, but successive principal architects J. H. Grainger (1897–1905), H. Beasley (1905–17), W. B. Hardwick (1917–27) and J. M. J. Tait (1927–30) were responsible for significant public buildings such as the Supreme Court (1904), Perth Secondary (Modern) School (1909) and Bunbury High School (1921). Eclectic and confident, these

buildings successfully employ a variety of local materials and respond sympathetically to regional characteristics. When necessary they were innovative, but never alarmingly so.

Initially the PWD undertook the design of Commonwealth buildings in WA. The GPO, Perth (J. S. Murdoch, Beasley, Hardwick, 1914–23), is an example of this productive cooperation. Later Commonwealth buildings were the responsibility of the Commonwealth Department of Works. Architects in the private sector challenged the PWD monopoly with little success. However, private architects were also commissioned to undertake public buildings, such as the Town Hall, Fremantle, 1887 (Grainger & D'Ebro), and York Town Hall, 1911 (Wright, Cameron & Powell).

After the hiatus of the Depression and the Second World War the design of public buildings resumed in a much-changed architectural environment dominated by the tenets of 'functionalism'. The PWD, under the direction of principal architects A. E. Clare (1930–60), W. L. Green (1960–67), L. J. Walters (1967–68) and S. B. Cann (1968–80) produced a body of modern work initially well regarded by the public as evidence of progress and the development of Perth as a modern city. Recently, however, some of these buildings, such as the 1964 additions to Parliament House, Perth, have been viewed less favourably.

Post-war, the significance of private architects increased via commissions—such as the Civic Centre, South Perth, 1959 (Duncan Stephen & Mercer)—and competitions—such as Council House, Perth, 1963 (Howlett & Bailey). During the 1970s and 1980s, private architects, in association with the PWD, designed major public buildings, including the Art Gallery of WA, Perth, 1979 (G. Summerhayes) and the Alexander Library Building, Perth, 1985 (Cameron Chisholm and Nicol). In 1985 the role of the renamed PWD—the Building Management Authority—was changed to focus on contract management, with the design of public buildings passing to the private sector.

Today, public buildings are increasingly concerned with being stylish, 'user friendly', and as a result are more akin to commercial buildings. Examples include the Department of Land Administration, Midland, 1993 (P. Hunt, D. Jackson); Municipal Offices Town of Vincent, Leederville, 1994 (P. Hunt); and the Justice Complex, Fremantle, 2001 (Cox Howlett & Bailey Woodland). With the exception of the Swan Bells, Perth, 2001 (W. Hames) and the WA Maritime Museum, 2004 (Cox Howlett & Bailey Woodland), the outcome is less formal, less monumental and possibly even less permanent. **Duncan Richards**

See also: Architecture; Building construction; Buildings, commercial; Infrastructure and public works; School buildings; Theatres, buildings

Further reading: M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986); B. van Bronswijk and D. Richards, *Creating the public realm: public architecture in Western Australia, 1890–2000* (1994); I. H. van Bremen, 'The new architecture of the gold boom in Western Australia. Government building under the direction of G. T. Poole, 1885–1897', PhD thesis, UWA (1990)

Built heritage Public awareness of the heritage value of buildings in Western Australia largely took place during the second half of the twentieth century. Post-war pressures to modernise and successive mineral booms and economic expansion created a climate of expectation that sought growth and change. Nowhere was this more apparent than in the central business district of Perth, and in particular along its main thoroughfare,

St Georges Terrace. Other cities and towns were not under such pressure, nor were their eventual changes to be so dramatic. Many of these places retained their essential built character and were subsequently declared historic towns by the National Trust. These include York and Coolgardie (1976), Cossack (1977), Toodyay (1980), Guildford (1984), Northampton (1993) and Jarrahdale Townsite (1997). Fremantle largely escaped the post-war pressure for development. The appreciation of its buildings by locals and tourists alike has encouraged the port city's resolve to protect its heritage assets.

The transformation of Perth into a modern metropolis had just started during the late 1930s with major developments such as the CML Building (demolished, 1980) and Lawson Flats, the Gledden Building, and the Emu Brewery (imploded, 1992). However, the recommendations and implementation of the 1955 Stephenson–Hepburn Plan for the Metropolitan Region highlighted the potential threat to many of the city's historic buildings, in particular the Pensioner Guard Barracks at the top end of St Georges Terrace. Concern over retaining such buildings led to the formation of the Western Australian branch of the National Trust in 1959.

The earliest built heritage issue in Perth resulted from the City Council's Post Verandahs and Balconies by-law of 1956. Ostensibly passed to remove what were seen as potential threats to public safety, this was also viewed as a means of modernising the look of the city. In 1963 the threat to remove the verandahs from the popular Hotel Esplanade in Perth resulted in thousands of people signing a petition for their retention. Several years later the protracted fight to save the hotel and its subsequent demolition in 1972 created much public anguish.

The bid to save the Pensioner Guard Barracks during the mid 1960s also fuelled public debate about heritage versus development. The National Trust, the Royal Western Australian Historical Society and other groups formed the Barracks Defence Council. However, they only succeeded in preserving the central arch, which today stands as a prominent icon to public dissent. Calls for the arch to be relocated are still being raised to this day.

Although buildings of heritage value were identified and classified by the National Trust and placed on the Register of the National Estate (1975), there were no formal mechanisms to protect these places. As a consequence, many registered buildings were lost through demolition, neglect, or were so altered that their heritage values were compromised. The 1896 Palace Hotel in St Georges Terrace is a case in point. Strenuously fought for by the Palace Guards during the 1970s, the place was eventually 'saved', its facade retained, and was converted into a banking chamber in the mid 1980s.

While the National Trust played a prominent role during early battles, other groups formed during the late 1970s and 1980s. Prominent among these were The Castle Keepers, who campaigned to preserve the Perth Technical College in St Georges Terrace; the Swan Brewery Preservation Society; the Art Deco Society of Western Australia; and the Heritage Protection Group. Members of these groups also agitated for the passing of the *Heritage of Western Australia Act* (1990) as the only means of achieving real protection for recognised heritage buildings. **Robyn Taylor**

See also: Architecture; Art Deco; Barracks Arch; Heritage; National Trust of Australia (WA); Royal Western Australian Historical Society

Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); R. Oldham and J. Oldham, *Western heritage: a study of the colonial architecture of Perth, Western Australia* (1968); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979)

Bunbury, named for army lieutenant Henry St Pierre Bunbury in 1839, attracted few settlers until the failed venture at nearby Australind provided substantial numbers in 1840–41. John Wollaston's new church at Picton in 1842 did nothing to address social problems, including friction with Aborigines. Plans for whaling, timber, sandalwood exports and commercial crops floundered before convict transportation brought economic and social change from 1850. Schoolteacher James Hislop and celebrated escapee John Boyle O'Reilly were less typical convicts than those who formed a depressed labouring class in a town under the political sway of Australind leader Marshall Waller Clifton and his family, until the end of transportation in 1868 cleared the way for elected local government in 1870 and a mayoralty in 1887.

Railways and a telegraph office in the 1890s and a telephone exchange in 1903 all eroded isolation. The *Southern Times* from 1888 and the *Bunbury Herald* from 1892 demanded these innovations, but the support of locally born premier Sir John Forrest was decisive. In the early twentieth century, breakwater improvements enhanced shipping safety and jetty extension, while electric cranes and coal bunkering further improved a harbour that had become important to timber exports. Thereafter, local business long remained dependent on those who worked on the waterside and its connecting railways and on visiting seamen. Yet despite exports of wool, wheat and other agricultural products, Bunbury was too close to Fremantle to become the major port for the South-West.

Defying early twentieth-century outbreaks of typhoid, smallpox and bubonic plague, successful self-promotion as a healthy tourist destination provided an economic lifeline through the Depression and two world wars. Tourism, however, was potentially at odds with Bunbury's aspirations for port and industrial development. The early 1950s brought another breakwater extension, a new wheat berth and concrete silos operated by Co-Operative Bulk Handling. Ignoring the threat to scenic attractions, civic leaders also welcomed a coal-fired power station and bulk fuel tanks for British Petroleum so tall that the lighthouse had to be raised twenty feet. In 1960 British chemical company La Porte arrived with official dispensation to 'discharge effluent without hindrance'. The La Porte negotiations stimulated the construction of land-backed berths and in the 1970s new primary industries in the hinterland demanded further port improvements. Even before the inner harbour was complete in 1980, alumina was the major export, while the annual outgoing tonnage of woodchips exceeded half a million by 1979, the year Bunbury achieved city status with a population of some 21,000.

By that time, an accelerating environmental movement questioned industrial projects and a new emphasis on lifestyle promoted such innovations as the 1985 conversion of St Joseph's convent into a community arts centre and regional art gallery. In the late 1960s Dr Ern Manea had shared the development priorities of his mayoral predecessors, Bernie Hay and Percy Payne, but in the early 1980s, convinced that tourism was the only economic activity capable of growth, he temporarily left the mayoralty to preside over the new Labor government's South West Development Authority. By 1986 SWDA initiatives had made the city a more attractive tourist gateway. The Lord Forrest Hotel provided luxury accommodation, while relocation of the railway marshalling yards to Picton removed an ugly seven-hectare barrier between the inner city and the harbour foreshore.

While Bunbury had enjoyed the political advantage of being the birthplace of Forrest and two other early premiers, Newton Moore and James Mitchell, in the later twentieth century it was its status as a swinging seat in the Legislative Assembly that was always likely to attract government expenditure.

Even though SWDA's focus soon shifted to the wider South-West, continuing public works brought the Australind bypass (1988), Koombana Drive and bridge (1989), further port expansion and a new regional hospital in 1992. Commercial growth saw a major shopping centre open in 1989; an Entertainment Centre promised cultural innovation in 1990; and the Institute of Advanced Education—an earlier SWDA innovation—became a university campus in 1991. The demolition of derelict grey wheat silos in 1991, but preservation of 'white' ones built in 1937, provided a compromise between those who saw such buildings as important industrial archaeology and those who regarded them as an eyesore out of place in the middle of an aspiring luxury resort. At least this new form of conservationist debate suggested that Bunbury had moved beyond its always-doomed aspirations to be a major port and industrial centre and accepted its role as a small city in a post-industrial region.
Anthony J. Barker

See also: Alumina; Convicts; Ports; South-West Timber industry; Wheat; Wool
Further reading: A. J. Barker and M. Laurie, *Excellent connections: a history of Bunbury, Western Australia, 1836–1990* (1991); T. Sanders, *Bunbury: some early history* (1975)

Bungarun is a Warrawa word for the old leprosarium 20 kilometres from Derby in the West Kimberley. From 1936 to 1986, Bungarun was an isolation hospital for 1,400 Aboriginal people from across the Kimberley with leprosy. Leprosy, or Hansen's disease, is a chronic (long-lasting) disease caused by bacteria which attacks the skin and nerves. It can badly deform the nose and face and cause numb areas that are vulnerable to infection if cut or burnt. It was not present in Aboriginal Australia before contact with people from outside the continent but it is a chronic disease of poverty, aggravated by

malnutrition and poor hygiene and showing a much higher incidence in isolated rural areas than in towns. Their higher standard of living explains why only a handful of white people were affected.

Preventable through improvements in living standards and basic hygiene measures, leprosy was curable from the time of the development of sulphone drugs in the 1950s. Prior to this, infected people faced the frightening prospect of a life sentence in isolation. By 1951 there were over three hundred Aboriginal people resident at Bungarun.

Leprosy was first diagnosed in the state at the beginning of this century. Islands off Carnarvon, Roebourne and Port Hedland were used as places of isolation. In the 1920s the numbers of people with leprosy increased dramatically and they were taken by lugger to an island leprosarium off Darwin. In 1933 a lugger sank on its way to Darwin, killing all the patients. The event sparked a public outcry at the threat of disease spreading. This did not deter the Sisters of St John of God, who came to Bungarun in 1937 when there were a few huts and shelters, and nursed patients throughout the fifty years it was open.

Collecting people suspected of having leprosy was a problem until well into the 1960s, when improved medical treatments allowed people more hope of returning to their families after relatively short stays of three to five years. The task fell mainly on mounted police patrols. In 1937 Ion Idriess published *Over the Range: Sunshine and Shadow in the Kimberleys*, his best-selling account of one of these three-month patrols into remote bush country north of the King Leopold Ranges. Police parties tracked and surrounded bush camps and raided them at dawn. Until the 1950s, chains were used to hold suspected lepers and escapees were punished.

Bungarun became a large town-like institution with gardens, mango trees, film nights, a school, two small churches, hospital facilities and dining rooms. Patients with skills as

Former patient shelter, Bungarun, c. 1960–70s, photographed 1999. Courtesy Heritage Council of WA (P02980)

carpenters, blacksmiths, drovers, windmill operators, goat-keepers, dressmakers, cooks and leather workers all helped to run Bungarun. They cleaned, cooked and also learned some reading and writing skills from the small school. Daily exercise classes were held, with Sundays being a day for fishing, storytelling and regular card-playing. Children born in Bungarun were removed from their mothers and fostered. Hundreds of people died in the institution and were buried there; others stayed for an average of five years, but many stayed for twenty years and more. Despite being cut off from their country, families and the outside world, and subjected to a daily regime of often painful treatments, Bungarun became a place where people from across the Kimberley could share traditional stories, languages and dances.

During the Second World War, Kalumburu and Broome were bombed and Derby was raided by Japanese aircraft, causing white women's evacuation to the south of the state. The Sisters stayed with the patients at Bungarun and started an orchestra to lift morale and encourage patients to move and use their hands and fingers, which were often badly affected by the disease. The orchestra grew to forty violins, six banjos, a cello and a cornet and became an important part of the social life of the institution. They played complex pieces of classical music like Beethoven and Mozart, as well as contemporary dance music.

In 1941 legislation was introduced to prevent Aboriginal people moving south of the twentieth parallel except under permit from the Chief Protector of Aborigines. The 'leper line', as it became known, was intended to contain leprosy in the north. It was not removed from the statutes until 1963, and well into the 1970s Aboriginal children and relatives of known leprosy carriers underwent a compulsory medical examination before being sent south for schooling. **Mary Anne Jebb**

See also: Aboriginal culture and society; Aboriginal health; Aboriginal legislation; Kimberley; Missions; Public health
Further reading: M. A. Jebb, 'The Lock Hospitals experiment: Europeans, Aborigines and venereal disease', in B. Reece and T. Stannage (eds), *European–Aboriginal relations in Western Australian history: Studies in WA History*, 8 (1984)

Buses The first privately owned omnibus service began operation in 1903, but only lasted ten weeks. Perth's first recorded regular bus operation was started by Mr C. H. Spicer in 1921, and is considered the forerunner of current-day services. A burgeoning of individual bus services, causing fierce competition, followed this. In 1924, as a result of wear and tear on roads and competition between buses, trams and suburban trains, designated bus routes were established. To protect existing tram and rail services, the government imposed strict regulations on private operators, forcing them to open routes in areas where there was no pre-existing bus service. Local government authorities often provided incentives to operators, particularly if ratepayers were lobbying for a bus service. In 1924, for example, E. J. Sumpton of the Rambler Charabanc Service (forerunner of the South Suburban Bus Service) won a tender from the Melville Roads Board providing them with an annual subsidy to run a service

from Perth to the Fremantle tram terminus at Stock Road.

A number of individual operators united to form the Metropolitan Omnibus Company in 1926, which served Perth for more than thirty years. Bus services continued to increase, and in 1933 the Tramway Department added trolley buses to its fleet. In 1934 there were 226 buses operating in the metropolitan area, half of which were seven-seater taxi-buses running between Perth and Fremantle.

By the 1950s the increasing number of cars, reduced patronage and increased operating costs reduced profits for private bus operators and services deteriorated. The Metropolitan (Perth) Passenger Transport Trust (MTT) was established by the government in 1958. It assumed responsibility for government services, including the Fremantle Municipal system, and gradually acquired all private services. Patronage continued to drop, until the MTT began to provide services to new suburban subdivisions. From 1966 patronage began to increase, reaching a peak of nearly 60 million passengers in 1972.

A free inner-city diesel-fuelled clipper bus service was introduced in 1973 by the MTT, and in the late seventies another three clipper buses were added by the City of Perth. By the late 1980s the service was averaging about 225 million passengers a year. In 1991 the clipper buses were replaced by smaller Central Area Transit (CAT) buses.

A trial run of the first trolley bus service outside The University of Western Australia, 30 May 1938. Courtesy West Australian *(HIST2047)*

Statistics from the *WA Yearbook* provide a snapshot of bus services throughout the state in the mid 1970s. In total there were 903 buses registered in WA in 1977. The MTT was responsible for 770 servicing the metropolitan area. Road transport of passengers outside the metropolitan area was provided by the railways road services (forty-eight buses), covering long-distance routes between Perth and country centres, and by the Eastern Goldfields Transport Board (twenty buses) serving the Kalgoorlie–Boulder urban area. The government also provided a total of 735 buses, which operated in some country areas, carrying 23,305 children to school each day. In addition, in 1976, private operators, employing 283 buses, were licensed to provide tourist, town and charter services.

All public passenger transport services in the Perth metropolitan region were transferred to the Department of Transport in 1994 and then in 2001, with regional town and school bus services, to the Department of Planning and Infrastructure. In 2003, in order to integrate all public transport services in the state, including rail, the Public Transport Authority of WA was established. There were fifteen bus services operating in fourteen major regional towns across WA in 2005, and private operators were providing school buses for some 24,000 country and city students each school day. In 2006 Transperth was operating 1,020 buses in the metropolitan area, including three Daimler Chrysler hydrogen fuel cell buses being trialled on normal Perth service routes. Transwa operates road coaches and train passenger services to regional centres in the south of the state. **Jane Leong and Bianca Piestrzeniewicz**

See also: Transport
Further reading: J. Selwood, 'Public transport and urban growth', in J. Gentilli (ed.), *Western landscapes* (1979); G. Stewart, *Urban transport and the MTT* (1983)

Bush Nursing Society In 1920 the British Red Cross made a grant of £150,000 to the Commonwealth of Australia for use primarily in the provision of bush nursing services. Preference was to be given to the needs of returned servicemen and their dependants, many of whom had recently been allocated soldier settlement farms in remote and under-serviced areas. Each state was allocated £25,000 for the purpose. In Western Australia, £10,000 went to King Edward Memorial Hospital and £15,000 was invested by the Bush Nursing Trust, with the annual interest to provide prenatal and convalescent hostels in areas with existing maternity hospitals. The Bush Nursing Society, managed jointly by the Silver Chain Nursing League and the Red Cross, was formed to administer the funds.

Hostels where expectant mothers and their children, from isolated areas, could stay before and after the confinement were built in Wyalkatchem (1922), Busselton (1926), Denmark (1928) and Kununoppin (1930). Local committees raised funds to assist with running costs and administration. A hostel built and partly furnished by the Society in Mukinbudin in 1938 extended the scope of the scheme to include minor sickness and emergency. Bush Nursing finance and help also went to allied causes such as the Flying Doctor, Infant Welfare Correspondence Scheme, equipping maternity wards and general aid to country hospitals, salary assistance for group-settlement nursing, support to Country Women's Association's nursing schemes and restrooms, assistance for some women to travel to Perth for specialist care, and subsidies to local committees to provide nursing facilities.

With improved roads and transport, usage of the maternity hostels declined. More general-purpose nursing centres were needed. In April 1944 the Bush Nursing Society amalgamated with Silver Chain and the name was changed to the Silver Chain District and Bush Nursing Association. The hostels were soon closed and replaced by bush nursing posts or country district nursing. **Jocelyn Maddock**

See also: Country Women's Association; Nursing; Silver Chain

Further reading: J. Chetkovich and D. Gare, *A chain of care: a history of the Silver Chain Nursing Association, 1905–2005* (2005); J. Maddock, *On the line: a history of the Shire of Mukinbudin* (1987)

Bushfires Western Australia is naturally bushfire-prone as a consequence of annual dry seasons, flammable vegetation and two sources of ignition: lightning and humans. Every year these factors ensure the occurrence of numerous bushfires that occasionally, under severe weather conditions, cause extensive damage. As a result of co-evolution with fire, WA bushland is well adapted to an environment in which bushfires regularly occur. Flora and fauna escape, survive or recover from fire with astonishing facility.

Aboriginal people burnt the bush regularly over many thousands of years. Their aims included assisting with hunting and food-gathering, and protection of people and resources from destruction by the large intense fires that are inevitable where bushland is long unburnt. The settlement of WA in 1829 by Europeans, however, introduced a fire-vulnerable society into a fire-prone environment. The settlers did not understand the interconnection of Aborigines, bushland and fire in a sustainable system of land management. They established towns, homesteads and summer-ripening crops, and introduced flocks and herds ill-adapted to bushfire survival. They transplanted the European concept that 'all fires are bad' and must be excluded from the landscape. This led to an 1847 ordinance forbidding the lighting of fires during the summer months, and to punishing Aborigines caught burning the bush; then, in 1937, to a *Bushfires Act* that sought to minimise the occurrence and severity of bushfires.

Government-funded fire brigades were set up with the mandate of controlling fires.

In agricultural regions outside the South-West, bushfire control became the responsibility (by default) of farmers, who formed and equipped volunteer bushfire brigades. Eventually this system came to be coordinated by local government and evolved into a highly efficient force. The rapid-response volunteer brigade system was effective in dealing with grass and cropland fires in well-populated areas, but was not appropriate for intense fires in remote forest.

Fire exclusion was attempted in south-west forests from the early 1920s to the early 1950s. The government's fire management policy was based on the North American model. This involved setting up fire lookout towers, the first being Gungin Tower in the northern jarrah forest during the early 1920s, and including the unique tree look-outs in the karri forest, including Gloucester Tree (1948) and Boorara Tree (1952). Other measures involved stationing foresters and firefighting crews in forest districts, with the task of attacking bushfires as quickly as possible after detection. The policy also required an extensive network of roads throughout the forest, telephone and radio systems and specialist firefighting equipment. Some deliberate burning was carried out with the aim of creating firebreaks, but was restricted to narrow (100-metre wide) belts through the forest.

The fire exclusion policy unravelled during the 1940s and 1950s when a series of large intense fires in the central jarrah forest and southern karri forests caused significant damage and expense. Bushfires in Australian eucalypt forests become increasingly difficult to control the longer the forest remained unburnt. Leaves and woody debris accumulated rather than rotting away, and this material became fuel. The heavier and drier the fuel, the more intense the fire. The problems culminated in the summer of 1960–61 when unstoppable fires started by

lightning burnt huge areas of forest and farm-land, destroying the towns of Dwellingup and Karridale. A royal commission followed.

From about that time, reinforced by the findings of the royal commission, a new policy was implemented. This involved periodic deliberate burning of forest under mild conditions to reduce the fuel levels. Although opposed by some environmentalists who believe that frequent mild fires damage Australian ecosystems, prescribed burning for fuel reduction is now an accepted part of forest management. It does not prevent fires, but makes them easier and safer to control, and less damaging. Following a period of systems development, the practice is now highly sophisticated, meeting environmental as well as bushfire control objectives. All other elements of the bushfire management system developed in the 1920s and 1930s remain.

The threat of bushfires never recedes. The science and practice of bushfire management continues to evolve. Since the 1990s there has been an increasing use of water-bombing aircraft in firefighting, and scientists have provided significant advances in understanding the role of fire in ecosystem health. At the same time, new problems are emerging. These include urban expansion

Chimney stacks are all that remain after the bushfires at Bickley Valley, 7 February 1940. Courtesy West Australian *(PP6786)*

into bushland at the city edge; decline of rural populations from which the ranks of volunteer brigades have traditionally been filled; numbers of permanent firefighters in forest zones; and concerns about the growth of arson and impacts of global warming. In the wake of serious bushfires in 2002 and 2003 a new round of policy and systems review commenced. **Roger Underwood**

See also: Aboriginal firing; Environment; Fire brigade

Further reading: I. Abbott and N. Burrows (eds), *Fire in ecosystems of south-west Western Australia: impacts and management* (2003); G. Carey, D. Lindenmayer and S. Dovers (eds), *Australia burning: fire ecology, policy and management issues* (2003); S. J. Pyne, *Burning bush: a fire history of Australia* (1991); R. J. Underwood and J. Bradshaw (eds), *Conservation and use of Western Australian forests: the perspectives of WA foresters* (2000)

Bushrangers were escaped convicts or criminals who took refuge in the bush and subsisted by robbery with threats of violence. In colonial Western Australia they were mainly runaway convicts who raided isolated homesteads for guns, food and horses. They were often a menace to travellers on the York Road, the most widely used thoroughfare out of Perth that led to fertile farm country beyond the ranges.

Irish convict James Lilly was well-known as a notorious vagabond and horse thief. He stole from teamsters and often demanded food at isolated houses. Lilly had a reputation for procuring only the best animals and was known to stick up anyone he thought might produce cash or valuables. Once it was reported he bailed up a settler with a cabbage stalk pretending it to be a pistol, and escaped on a fine thoroughbred. In 1860 he wrote to the *Perth Inquirer* seeking clemency to prevent him from committing harm while on the run. 'I, James Lilly, wish to inform the settlers of my going into the bush,' he wrote. 'If His Excellency be pleased to allow me to go to my friends in another colony, and what I have done I will restore to everyone uninjured, and, if not, would sooner die than come in out of the bush.'

John Gray committed various robberies before he was apprehended at Mahogany Creek. He escaped from the York lock-up in 1862, but was later recaptured. Another, named Johnson, absconded from a road party near York in 1864. Teaming up with McKeen and Rose ('bolters' from another road party), they robbed several people and seized a young Aboriginal woman to act as an overland guide. Johnson was wounded during a shoot-out and all three were eventually recaptured.

At midnight on 29 May 1867 three notorious prisoners broke out of Fremantle Prison. William Graham, a manservant, had been convicted of manslaughter and sentenced to transportation for life. After being conditionally released he was sentenced to a second life term for 'wounding with intent to do bodily harm' in the Beverley district. Thomas Scott, the second escapee, was transported to the colony for mutinous conduct and assaulting a ship's officer. He received one hundred lashes and three years for a fierce attack on a warder at the York convict depot. After only two days on the run, the third escapee, George Morris, met his death with an exchange of pistol shots with police constables Armstrong and Kirk on the banks of the Swan River near Guildford. Graham was finally arrested east of Kojonup on 24 August 1867 after being wounded by police and giving himself up to a shepherd. Scott was apprehended eight days later near the Blackwood River.

Other more notorious bushrangers include Andy Miller, an unpopular highwayman who killed a policeman, and a rogue named Thomson who made enemies of those who would have helped him by stealing from convict

camps. Another bushranger named Gray was denounced by settlers and teamsters as a 'bad bloke'.

The best known of all the Western Australian bushrangers was Joseph Bolitho Johns (1827–1900), alias Moondyne Joe. Originally convicted of stealing, he was sentenced to ten years' imprisonment and transported to WA in 1853. Two years later he was freed on a conditional pardon and worked in the Toodyay district until he was arrested on suspicion of 'stealing a horse and other offences' in 1861. Joe escaped from the Toodyay lock-up and destroyed the horse and its brands, thus eliminating the evidence of his crime. This meant that he could only be convicted for prison-breaking, which carried a much shorter sentence than horse stealing.

Released on a ticket-of-leave, he worked as a charcoal burner in the Toodyay district, but was soon convicted of killing an ox in 1865, for which he received a ten-year sentence. Then began a series of short-lived escapes. He was an outstanding bushman and generally hid out in the Moondyne Hills near Toodyay. He teamed up with Thomas Bugg, John James and Thomas Bassett in 1866, committing various robberies before his recapture later that year. Moondyne Joe won a place in bushranging folklore for his remarkable ability to escape every time he was placed behind bars. After he had escaped numerous times, a special 'escape proof' cell was constructed at Fremantle Prison to hold him. **Mark Greenwood**

See also: Convicts; Folklore; Fremantle Prison; Imprisonment; Police and policing
Further reading: I. Elliot, *Moondyne Joe: the man and the myth* (1978); R. Erickson (ed.), *The brand on his coat: biographies of some Western Australian convicts* (1983); R. Mendham, *Dictionary of Australian bushrangers* (1975); C. Treadgold, 'Bushrangers in Western Australia: incidents of '67', *Early days*, III (1939)

Busselton The Shire of Busselton lies 229 kilometres south of Perth on Geographe Bay and covers an area of 1,454 square kilometres.

The first European settlers in the region originally settled at Augusta, but harsh conditions led them to move to the Vasse River. There the land provided good pasture, probably as a result of the firestick farming practised by local Nyoongars. John Bussell identified the potential of the area and he and his family settled at Cattle Chosen in 1834. Other settlers included Captain John Molloy (the district's first Resident Magistrate) and the Chapman, Dawson, Layman and Turner families. Among the earliest surviving buildings are Sandilands Homestead (1840s), Wonnerup House (1837–57), Prospect Villa (1855) and Westbrook Homestead (1866).

The construction of St Mary's Anglican Church (1845) pre-dated the official gazetting of the town of Busselton in 1847. Hotels and a gaol followed, with the latter extended over time to include a customs office, courthouse, police station and post office (1860–1900). Early industries included pastoralism, agriculture, whaling (a station was established at present-day Dunsborough in 1845) and timber (the Vasse Timber Company, 1849). Expansion of the timber industry saw the

Busselton Centenary celebrations, crowd outside the church for a centenary service. 2 April 1932. Courtesy West Australian (BUSS0062)

construction of a jetty at Busselton in 1865 and the development of the colony's first railway line by the West Australian Timber Company in 1871. The jetty was extended several times until by 1960 it was 1,841 metres long, making it the longest timber jetty in the southern hemisphere. However, with the decline of commercial activity, the port of Busselton closed in 1972.

Busselton developed as a popular holiday destination during the gold boom. It was linked to the state's rail network with the construction of the Boyanup–Busselton railway line in 1895. The discovery of caves in the region in 1898 added to its appeal as a resort, and Caves House (1903, rebuilt in 1939) was built at Yallingup. Prominent architect Eustace Gresley Cohen, who settled in the area in 1904, designed a number of houses in Busselton, including Beachgrove Homestead (1910). In the 1920s a number of group settlements were established in the region, but were only marginally successful.

Busselton's popularity as a tourist destination continued with the development of holiday cottages and camps along the coastal strip south of Busselton. In the twenty-first century the shire's main industries are dairying, beef cattle, sheep, wine, mining, timber, fishing, light industry and tourism. In 2006 the population of the shire was 26,638, with 67 per cent living in the town of Busselton. It is estimated that the number of people in the shire increases to around 60,000 during peak holiday times. The region is a thriving tourist destination and Busselton, Dunsborough, Eagle Bay and, to a lesser extent, Yallingup have undergone extensive redevelopment to cater to the tourist trade. Other attractions include the dive wreck, HMAS *Swan* (1997), and the Underwater Observatory (2003) at the end of Busselton jetty. **Fiona Bush**

See also: Caves; Caves, tourism; Dairying; Group settlement; Jetties; Land settlement schemes; Railways; South-West Timber industry; Tourism; Whaling; Wine

Further reading: R. Jennings, *Busselton: 'outstation on the Vasse', 1830–1850* (1983); R. Jennings, *Busselton: a place to remember 1850–1914* (2000)

C

Cadets, air The Air Training Corps (ATC) was founded in 1941 for males aged sixteen to eighteen who planned to join the RAAF. By 1943 the Western Australian Wing had 1,046 cadets in 10 units. Australia-wide, 14,000 graduated from the ATC during the Second World War; 12,000 joined the RAAF, 7,000 as aircrew.

After the war, the ATC became a youth organisation, part of the RAAF. Aims were to increase young men's knowledge of air matters, instil a sense of discipline and provide elementary technical training. In 1975 the Australian government decided to discontinue cadet training. A new government continued the ATC from 1976 but ended its formal link with the RAAF.

Flying scholarships, gliding training, rifle-shooting competitions, annual camps and weekly parades have attracted many recruits. Between 1966 and 1990, WA cadets totalled 11,429, including (from 1982) 488 girls. In 2001 the ATC changed to the Australian Air Force Cadets. The WA Wing in 2004 comprised eighteen squadrons (each normally consisting of several flights), plus two specialist flights, 141 instructors and 829 cadets. **Ian Lindsay**

See also: Air Force; Cadets, army; Cadets, naval; Second World War
Further reading: L. R. Jubbs, *Royal Australian Air Force Air Training Corps: now the Australian Air Force Cadets, in Western Australia 1941 to 2001* (2003); B. J. Videon, *Air Training Corps: the first fifty years* (1991)

Cadets, army Army cadets were attached to volunteer units at Perth, Fremantle and Guildford as early as 1884, while school-based units, established at Perth and Fremantle in 1897, were trained either at the school or by instructors at local army depots. Cadets participated in the colony's 1890 celebrations. A WA Public Schools Cadet Force was inaugurated in 1903, and by 1906 when the Commonwealth Cadet Corps was established WA already had some 1,200 Junior Cadets.

When universal military training was introduced in 1911, cadets numbered about 3,000 in WA. The new scheme provided for compulsory training of all males aged between twelve and fourteen as Junior Cadets and those between fourteen and eighteen as Senior Cadets, to be transferred thereafter to the Citizen Forces. Attitudes following the First World War, together with inadequate funding and equipment shortages, saw a decline in cadet activity with all compulsory provisions of the Commonwealth *Defence Act* suspended in 1929, but during the early 1930s voluntary units were re-established in some private schools. The number of school units more than doubled during the Second World War. The first government school to form a unit in WA was Perth Modern School, in 1941, with nine officers and some 150 cadets.

In 1951 the title Australian Cadet Corps was adopted, with a Director and Headquarters staff at Army HQ and with cadets in each state organised into a Cadet Brigade and a number of Cadet Battalions. At this time there were 31 cadet units in WA, comprising some 2,700 School Cadets and 430 Regimental Cadets. The regular army provided administrative and instructional

staff, while officers of school units were usually teachers. In addition to platoon infantry training and range practices larger units offered their older cadets specialist training in Signals, Medical, Intelligence, Vickers MMG, three-inch mortar, and even the six-pounder anti-tank gun.

The standard program through the 1950s and 1960s involved home training one afternoon a week, occasional weekend bivouacs and Saturday-morning range practices, and an annual eight-day camp at Northam. Selected cadets also attended courses in January for promotion and specialist training.

The Australian Cadet Corps was disbanded by the Whitlam government in 1975 but reintroduced by the Fraser government the following year. Training programs increasingly featured 'adventure training' activities, while a significant military element was maintained. Membership of the corps was extended to include female cadets in 1982, following the inclusion of female officers of cadets several years earlier.

In 1983 the Hawke government announced a restructuring of the corps in which school-based units would no longer receive direct support from the army and community-based units would be regionally located at Army Reserve depots. This led to the disbanding of many school units.

In 2008 the corps, re-named Australian Army Cadets, had its WA Headquarters at Leeuwin Barracks and comprised 31 cadet units (3 school and 28 army) throughout the state, with over 1,100 cadets and over 100 officers and instructors. These units are 'sponsored' by RSL sub-branches, local Rotary clubs, several senior high schools and others, and are 'fostered' by General Reserve units.
A. W. Courtney

See also: Army; Cadets, air; Cadets, naval; Reservists
Further reading: Committee of Inquiry into the Citizen Military Forces, *Report on the Army Cadet Corps* (1974); P. Dennis, J. Grey,

E. Morris, R. Prior and J. Connor, *The Oxford companion to Australian military history* (1995)

Cadets, naval The primary role of Australian naval cadets, formerly known as Navy League sea cadets, was to foster an interest in the sea in boys and young men. Sea cadets were established under the auspices of the Navy League in a number of Australian states in the first decades of the twentieth century, but Western Australia had no Navy League until 1952, when Navy League sea cadets were first established in the state under Commander J. C. B. Anderson. This was initially aimed at boys aged fourteen to sixteen. The state's first cadet unit, which met at HMAS *Leeuwin*, was named TS (Training Ship) *Cresswell* in honour of Captain Cresswell, regarded as the father of the Royal Australian Navy (RAN). Other units followed: TS *Cunningham* (Scotch College) in 1953; TS *Cygnet* (Hale School) and TS *Harwood* (Aquinas College) in 1954; TS *Vancouver* (Albany) and TS *Bedford* (Rockingham) in 1957. By 1964 the state's Australian Sea Cadet Corps numbered 27 officers, 10 instructors and 310 cadets.

During the 1960s the Navy League acquired a half-acre site north of HMAS *Leeuwin* for permanent headquarters. This became the site of the HMAS *Perth* Memorial Hall, in commemoration of the loss of the HMAS *Perth* in 1942. Built from funds raised through a public appeal, the headquarters were completed in February 1967. The cadet unit name TS *Cresswell* was changed to TS *Perth*.

In January 1973 the RAN assumed full responsibility for sea cadets, which were subsequently known as the Naval Reserve Cadets (NRC). Female cadets joined WA units from the early 1980s. In 1999 the Navy implemented a review of the NRC, which coincided with a government review of all its defence force cadets. The result was the establishment of the Australian Defence Force

Cadets and a federal government-funded Cadet Enhancement Program, and the NRC became the Australian Naval Cadets (ANC). **Keryn Clark**

See also: Cadets, air; Cadets, army; Navy
Further reading: P. Dennis, J. Grey, E. Morris, R. Prior and J. Conner, *The Oxford companion to Australian military history* (1995)

Camden Harbour Plans to settle at Camden Harbour, on the west coast of the Kimberley, were first mooted in 1838 following George Grey's explorations. Two expeditions, in 1863 and 1864, revived interest, and a land agent, W. Harvey in Victoria, founded the Camden Harbour Pastoral Association. His enthusiastic pamphlet described 'superior…well-watered pastoral and agricultural country', but seriously misrepresented the distance from Perth and the proximity of mountain ranges. Over one hundred people subscribed £20,000 for shares in the company, each share entitling the owner to 20,000 acres.

The first parties arrived during December 1864. The extreme heat resulted in three deaths from sunstroke. The green grasses described by explorers had completely withered and there was no feed. By February, when Robert Sholl arrived as Resident Magistrate, three-quarters of the flocks of sheep had died and Edward Tanner wrote on behalf of the settlers that they had decided to leave 'a district which without exaggeration is composed entirely of *heaps upon heaps* of red vitrified stones'.

Relations with the local Aboriginal people, Worora, were poor: Aborigines speared Police Constable Gee on an expedition, and in the subsequent rush to return to the settlement, the party lost its boat and another man drowned. The settlement was abandoned in October 1865. The Worora claim victory over the intruders. **Ian Crawford**

See also: Exploration, land; Frontier violence, Kimberley; Kimberley; Pastoralism
Further reading: I. M. Crawford, *We won the victory: Aborigines and outsiders on the north-west coast of the Kimberley* (2001); C. Richards, *There were three ships: the story of the Camden Harbour expedition 1864–65* (1990)

Camels were a vital element in transport in late nineteenth and early twentieth century Western Australia. Prior to 1890, railway infrastructure was meagre and localised, while roads beyond the immediate Swan River District were, at best, tracks. Recognising the potential of camel transport, the colonial government offered a 'premium' for the importation of camel breeding stock in 1846 and again in 1851; neither offer was taken up. The first camels seen in WA were those of Peter Egerton-Warburton's expedition, which crossed the Great Sandy Desert from Alice Springs to Roebourne (1873), and those of Ernest Giles, which crossed the Nullarbor from Beltana, South Australia (1875). In 1887 two shipments of camels from Karachi arrived in Fremantle on behalf of Meer Dost Khan and Company.

In 1891 there were a mere ninety miles of railway east of Perth and just forty-two camels. From this low base, camel numbers increased dramatically to 3,984 by 1896. Materials for major governmental capital works, particularly railway, telegraph and

Camel power moving a house from old to new Onslow in 1924. Courtesy West Australian *(HIST6295)*

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water-pipeline construction, were needed for burgeoning goldfields centres, as were stores and water for inland communities and isolated mining camps. For more than a decade camels were the core of the transport sector on the Eastern and Murchison goldfields. Trains of forty to fifty camels carted a miscellany of passengers, stores and heavy mining machinery. Pre-eminent among camel proprietors on the Murchison and Eastern goldfields were brothers Faiz and Tagh Mahomet; and also Abdul Wade, whose string of some 400 camels carried the bulky cement-casks required for construction of the Niagara Dam near Kookynie. In 1898 Dr Margaret Corliss of Coolgardie had her own camel to attend to outpatients among the 10,000 people living remotely.

The eastern railhead advanced steadily to Southern Cross, then Coolgardie, Kalgoorlie and on to Menzies by 1898; meanwhile, the Murchison railway from Geraldton reached Cue. The progression of the rail network, together with completion of the Goldfields Water Supply in 1903, changed the role of camels in these regions. Formerly long-haul carriers, they became off-rail, short-haul providers for the high demand for cartage further inland, and camel numbers increased until 1919. In 1907 Port Hedland saw the last large-scale importation of camels into WA. The Port Hedland – Marble Bar railway was completed in 1911, as were extensions on the Eastern Railway to Leonora, Laverton and south to Norseman. This moved the sphere of camel operations further inland. In the North-West, camels carried stores from Wyndham to miners and pastoralists in otherwise inaccessible areas of the East Kimberley. On the Gascoyne and Ashburton, camels continued to ply to remote pastoral stations carrying supplies and returning with wool for on-shipment, this being their last bastion. Camels ceased as a significant transport element by the late 1920s, displaced by motor transport. Many of the once-valued camels were abandoned to roam free,

supplementing existing feral numbers. At the close of the twentieth century, estimates of numbers of feral camels in WA exceeded 100,000. **Brian Willis**

See also: Eastern Goldfields; Exotic fauna; Exploration, land; Feral animals; Gold; Middle Eastern immigrants; Muslims; Railways; Transport

Further reading: H. M. Barker, *Camels and the outback* (1995); J. L. Long, *Introduced birds and mammals in Western Australia* (1988); T. L. McKnight, *The camel in Australia* (1969); C. Stevens, *Tin mosques & ghantowns: a history of Afghan cameldrivers in Australia* (1989)

Cancer is not a recent phenomenon. However, it was not until the twentieth century that scientists began to understand the structure and functioning of living cells and experiment and theorise as to the origin of cancer. In 1927 the Commonwealth Royal Commission on Health reported an increase in the death rate from cancer in Australia. Funding was provided for research, and from 1930 Commonwealth and State Health Departments held an annual conference to discuss cancer campaigns, cancer clinics and research. In 1931 a Radiology Department with X-ray therapy equipment and beds for twelve patients was opened at Royal Perth Hospital and a register of cases kept. Public education was seen as vital. Though there was no evidence that cancer was infectious, the public were advised to press clothing, except for hats, with a hot iron and steep everything in or sponge everything with a five per cent formalin solution. Little progress was made until the mid 1950s when there were a thousand new cases annually of cancer of the type treatable by radiotherapy, 65 per cent of which were skin cancers. Around the same time a connection was made between lung cancer and smoking tobacco.

An important feature in the history of cancer in Western Australia has been the involvement of the Cancer Council WA in the direct provision of clinical care services, as well as community education, cancer prevention and cancer research funding. In 1956 the Anti-Cancer Council of WA was established with the aim of obtaining a state facility for cancer radiation therapy. A public appeal in 1957–58 raised over £100,000 for an 'Institute of Radiotherapy' to be located on university land near the Chest Hospital. The *Cancer Council of WA Act* (1958) established the Cancer Council of WA as the successor to the Anti-Cancer Council, with power to 'establish and maintain Cancer Institutes'. Dr J. A. G. Holt was appointed Director and the Institute's first patient was treated in May 1961. During the 1960s the Institute expanded, and in 1973 the state government purchased the controversial Tronado hyperthermia machine for the Institute. In 1975 the Cancer Council transferred the Institute to Sir Charles Gairdner Hospital. After an unfavourable report by the National Health and Medical Research Council (NHMRC), the Hospital Board stopped treatment by the Tronado machine despite strong support from Premier John Tonkin for its use. A second machine continued to be used by a private radiotherapy practice but a subsequent NHMRC study in 2004 was also unfavourable.

A Western Australian Cancer Registry was set up by the Cancer Council, commencing on 1 January 1964. In 1981 cancer became a legally notifiable disease in WA and the Registry was transferred to the Health Department. This has assisted in providing population-based data for use in the planning of services and in the prevention and treatment of cancer, as well as research. At the request of the Cancer Council, the 1958 Act was repealed in December 1982, resulting in a new incorporated body, the Cancer Foundation of WA, which reverted its name to the Cancer Council WA in 2004.

In the late 1970s several groups and individuals began to campaign for a hospice and palliative-care service in WA. This resulted in the opening of palliative care units at several hospitals and, in 1987, the opening of the Cottage Hospice, Australia's first purpose-built free-standing hospice, in bushland in Shenton Park. As part of a restructure of palliative care services, it was closed in April 2006 and its services relocated to other facilities.

Statistics indicate decreased mortality from cancer and increased survival rates, but cancer is the leading cause of death in Australia. Its incidence has been increasing over the past ten years and more people are living longer with the disease. A 2003 review of cancer service delivery in WA has led to the development of the WA Health Cancer Services Framework 2005–2010. It seeks to ensure an improvement in the integration, coordination and delivery of cancer services in WA. **Michael Millward and Sue Graham-Taylor**

See also: Palliative care; Public health
Further reading: Australian Institute of Health and Welfare and Australasian Association of Cancer Registers, *Cancer survival in Australia, 2001* (2001); B. Oliver, *Towards a living place: hospice and palliative care in Western Australia, 1977 to 1991* (1992)

Capital punishment has been imposed on 154 individuals since European settlement in Western Australia in 1829, with 136 executed for murder and the remainder for burglary (1), carnal knowledge (1), rape (6), robbery (1), and wounding (9). In executing twenty-six people during the twentieth century, WA maintained a higher rate of executions than any other Australian state, both per capita and in total. By comparison, Australia's most populous state, New South Wales, executed twenty-three people in the same period. In part, this high rate may have stemmed from

the state's distinctive geographical characteristics, with its vast areas and numerous isolated and vulnerable frontier settlements, leaving authorities reliant upon severe punishment to address the population's insecurity.

Initially, capital punishment was a very public event, including processions to sites around Perth where the execution would take place, such as Beaufort Street, the corner of Mill Point Road and Ellam Street in what is now South Perth, and the Causeway bridge.

The first documented executions in WA involved two Aboriginal men, Doodjep and Bunaboy, who were convicted of murder and hanged at York in 1840. Interestingly, while a disproportionately large number of Aboriginals have been sentenced to death, less than one-fifth of the cases actually proceeded to execution, a significantly lower rate than for condemned prisoners of European descent.

The first European to be executed was fifteen-year-old John Gavin. First convicted of a crime in England, he had been sent to WA in 1843 as a Parkhurst boy. He was hanged beside the Roundhouse in Fremantle after being convicted of killing his employer's son.

The hanging of James Fannin in 1871 was the first held within the confines of Perth Gaol, due to a Bill passed by parliament to remove executions from public view. However, the change did not apply to executions of Aborigines due to the perceived need to demonstrate to the Indigenous population the consequences of transgressing white law. From 1888, Fremantle Prison became the colony's official venue for hangings.

The execution of women caused misgivings in the community, as revealed in 1909 when the last of three women hanged in WA, Martha Rendell, was sentenced to death for killing her stepchildren by swabbing their throats with hydrochloric acid. Her execution was attended by the largest number of witnesses at a Fremantle

Site of the first hanging in WA. The Round House and whalers' tunnel, Fremantle, c. 1920, Courtesy Heritage Council of WA (PO0896)

Prison hanging, but a new policy excluded members of the press for the first time 'to guard against the publication of unnecessary details', according to the *West Australian* of 6 October 1909.

Over time, executions in WA tended to provoke public discussion and appeals for clemency from sections of the community. The call for abolition had a long history in the state, with the Women's Service Guild, for example, calling for an end to the death penalty from at least 1909. Capital punishment's value was increasingly questioned around Australia and by 1960 its use had ceased altogether in most states. Between 1932 and 1960 only two men were executed in WA, though four men were executed in the early 1960s, in an environment influenced by a number of murders that changed the city of Perth's attitude to crime and security. Although the 1964 hanging of serial killer Eric Edgar Cooke would be Western Australia's last, it met with little public controversy due to the notoriety of his crimes.

The political party in government directly influenced the likelihood of an execution proceeding in WA. Liberal and Country parties generally endorsed capital punishment, while the Australian Labor Party was less supportive. In WA, however, the ALP was slower to act than in Victoria and New South Wales, not adding abolition to its platform until 1931, after which all death sentences reviewed by

the state's ALP governments were commuted. WA was the second-last Australian state to abolish capital punishment when, in 1984, the Burke Labor government passed the Acts Amendment (Abolishment of Capital Punishment) Bill. **Simon Kennedy**

See also: Aboriginal prisoners; Fremantle Prison; Imprisonment; Murders; Sexual assault
Further reading: R. Farrell, 'Dangerous women: constructions of female criminality in Western Australia 1915–1945', PhD thesis, Murdoch University (1997); S. Kennedy, 'Hidden behind prison walls: uncovering the act and experience of capital punishment in Western Australia in the 1960s', Honours thesis, UWA (1996); N. Mattingley, 'The abolition of capital punishment in Western Australia, 1960–1984', Honours thesis, Murdoch University (1990); B. Purdue, *Legal executions in Western Australia* (1993)

Cardiology did not exist as a separate specialty in the nineteenth and early part of the twentieth centuries, since it was difficult to diagnose heart disease accurately. This changed with the introduction of the electrocardiogram to clinical practice in the 1940s, introduced to Western Australia by Dr Cyril Fortune. The major challenge in cardiology then became the accurate diagnosis and treatment of rheumatic heart disease, which results from childhood exposure to streptococcal infection. The first operation to correct rheumatic valve heart disease was a mitral valvotomy performed at Royal Perth Hospital (RPH) by Dr F. J. Clark in the mid 1950s, and this led to the development of open heart surgery and more complex procedures by doctors Archie Simpson and Peter Gibson in the 1960s.

Improving health standards and wider use of penicillin led to a decline in rheumatic heart disease, to be replaced by a postwar epidemic of coronary heart disease that reached its peak in the 1960s. This was met by the rapid development at RPH of coronary angiography and coronary artery bypass surgery to diagnose and treat coronary disease, and the introduction of specialised coronary care units to treat heart attack victims at RPH and Sir Charles Gairdner Hospital (SCGH). Mobile intensive care for out-of-hospital emergency treatment of heart attack victims was pioneered by James Robinson in 1966, and the use of clot-dissolving drugs for emergency treatment of coronary thrombosis by Peter Thompson in 1985.

By the mid 1980s the facilities for cardiac surgery at RPH were overwhelmed, despite the establishment of a private cardiac surgery unit at the Mount Hospital, and a second public hospital cardiac surgery unit was established at SCGH, followed by a third at Fremantle Hospital in the early 1990s. The introduction of coronary angioplasty by Neil Cumpston, Geoffrey Cope and Geoffrey Mews into Perth in the early 1980s provided an exciting alternative to cardiac surgery. By unblocking coronary obstructions with a balloon introduced through a leg artery, the need for opening the chest could be avoided. Now, many more patients are treated with angioplasty than with surgery.

Coronary heart disease rates have declined to less than a third of the levels of the 1960s in WA, a triumph for improved treatment techniques introduced by WA cardiac surgeons and cardiologists, and the efforts of the Heart Foundation and WA Government 'Quit' campaigns, which have led to declines in smoking and fat consumption in the community. **Peter L. Thompson**

See also: Anti-smoking campaign; Fremantle Hospital; Medical practice; Mount Hospital; Public health; Royal Perth Hospital; Sir Charles Gairdner Hospital
Further reading: J. B. Hickie and K. P. Hickie (eds), *Cardiology in Australia and New Zealand* (1990)

Carnarvon Tracking Station (call-sign 'CRO') commenced operations in 1964 as part of NASA's international network, relaying commands and tracking and telemetry data between manned spacecraft and the Mission Control Centre at Houston. CRO's location was optimal for early confirmation that a good Earth orbit had been achieved—information critical to success in every mission. CRO provided crucial support for the transfer of Apollo spacecraft out of Earth's orbit towards the Moon, and was the sole station in contact for much of the critical final period before splashdown.

Station construction began in 1963 on Browns Range, seven kilometres from Carnarvon. Antenna arrays soon dotted the skyline. Amalgamated Wireless Australasia (contractors to the Australian Department of Supply) recruited electronics engineers, physicists, technicians, equipment operators and clerical staff from around Australia and overseas. Staff lived in Carnarvon and travelled to work in minibuses geared to 24-hour operational schedules. At its peak, 220 staff worked at CRO. Nearly six hundred were employed during its eleven years of operation.

The Telemetry and Control Building was CRO's administrative and operational hub. It housed voice communications equipment; telemetry processors; a command system; computers; the Unified S-band (USB) system; Gemini and Apollo control rooms; administrative offices and a staff canteen. The nine-metre USB dish and two Acquisition Aid antennas stood nearby. CRO maintained its own powerhouse to ensure a constant electricity supply.

Other site installations included a precision tracking radar; optical and radio telescopes to monitor solar flares; tracking antennas to collect data from scientific satellites; and antennas to monitor radiation hazards within the ionosphere and record natural radio transmissions from Jupiter.

CRO soon became renowned throughout the NASA network for its innovation, team spirit, 'can do' attitude and tracking success, and a favourite destination for visiting astronauts. Every CRO staffer shared the euphoria of the 1969 Moon landing, but it signalled the beginning of the end for CRO. NASA budgets were cut, programs scaled back, and the Australian government planned to consolidate all Australian space facilities. By March 1975 all NASA equipment had been relocated and CRO was decommissioned. Only one small building remains on the site today. **Alison Gregg and Paul Dench**

See also: Astronautics; Gascoyne; Perth; USA, relations with
Further reading: H. Lindsay, *Tracking Apollo to the moon* (2001)

Carrolup child artists In the late 1940s a group of young Nyoongar children at Carrolup, now known as Marribank, near Katanning, developed a highly original interpretation of their rural environment, with the sympathetic encouragement of their schoolteacher. Subsequently, an Englishwoman, Florence Rutter, was highly impressed with these works and took them on an exhibition tour of Australia, New Zealand, Britain and the Netherlands in 1950–51. The original Carrolup child artists comprised most notably Revel Cooper, Parnell Dempster, Reynold Hart, Keith Indich, Claude Kelly and Milton Jackson; since then, another generation including Lance Chadd (Tjyllyungo), Shane Pickett and Yibiyung Roma Winmar has emerged, many of whom have direct kin-based associations with the original group. Their artworks demonstrate the development of a unique style of art, particular both in terms of its historical origin and the significance of its development to the contemporary context of Aboriginal urban art.

Carrolup Native Settlement was first established in 1915. Closed for many years, Carrolup was reopened in 1940. The subsequent appointment in 1945 of Noel White

as headmaster at Carrolup was to have far-reaching significance. He was not an artist himself; his familiarity with ink, crayons and paint were more a reflection on his career as a teacher, where art was a common, if not integral, part of schoolroom activities, than it was of his own special talents. However, wanting to encourage the pupils, White began taking the children on walks in the bush, after which they would return to the classrooms and draw what they had observed in nature—each hiding their work from the eyes of the others until it was finished. Noticing the children drawing on scraps of paper, he provided better materials and within weeks the children's efforts had developed from doodles into complex designs of geometric shapes and naturalistic features of the local landscape. They drew and painted the world they knew from their own experience. Some of the pastel drawings were subtle and subdued, echoing the softened perceptions of the night. But in other cases the dramatic renderings of almost unbelievably rich sunsets, patterned by the silhouettes of trees, accords an extraordinary vibrancy to the panoply of these works. The animals of the bush, and images of body-painted Aboriginal men and spirits, compete for prominence in so many of the drawings. Imagined corroborees, far removed from the day-to-day institutionalisation of life at Carrolup, suggest a yearning for the outside world, the cherished bush of the South-West. **John E. Stanton**

See also: Aboriginal art, Indigenous perspectives; Aboriginal culture and society; Mission schools
Further reading: M. Durack, with F. Rutter, *Child artists of the Australian bush* (1952); E. S. Phillips and R. M. Berndt, 'Looking toward the Aboriginal arts', in R. M. Berndt and E. S. Phillips (eds), *The Australian Aboriginal heritage: an introduction through the arts* (1973); J. E. Stanton, *Nyungar landscapes: Aboriginal artists of the south-west: the heritage of Carrolup, Western Australia* (1992)

Cartography When the colony of Western Australia was founded in 1829 only the coastline of the colony and the course of the Swan River inland to Ellen Brook were known. The first surveyors and cartographers faced a daunting task to fill in the details of such a vast unknown territory. For cadastral purposes—the recording of land ownership—Western Australia's South-West was initially to be divided into counties, hundreds, townships and square-mile sections. Twenty-five counties were created but, unlike other colonies, cadastral development took another course and all disappeared, though a few county names were retained for land districts (for example, Sussex and Plantagenet).

In the early years of the colony two names were prominent in the task of filling in the detail—John Septimus Roe and Alfred Hillman. Surveyor-General Roe was at heart a naval man, and some of his best work in the colony is the hydrographic charts he surveyed and drew. Plans of much of his land exploration and surveying work are in his own hand, due to the lack of draughtsmen in the colony. Hillman was appointed the colony's first draughtsman in 1831, and for around thirty years he was the colony's leading proponent of cartography, although his work was confined to manuscript plans of government surveys and explorations, often his own. His penmanship was of high quality, and his plans are fine examples of the standard of the time. He was also the government lithographer for a number of years. The State Records Office of Western Australia holds a large collection of exploration and survey plans of this period.

Until the 1860s cartography within the colony was confined to manuscript plans, and any printed maps were produced in England from information supplied by the Colonial Office to the prominent cartographic houses of the time, such as John Arrowsmith. Arrowsmith's maps were the most detailed, and were widely available for sale. During the 1860s many trained draughtsmen arrived in

the colony, including Edward Charles Dean, who produced a beautiful hand-drawn map of the Victoria district on which he scribbled a pencilled note expressing disappointment at the amount he was paid 'owing to the profession being so ably represented in the Colony'. Dean and his son, Charles Youle Dean, were fine penmen employed by the Survey Office and later Lands and Surveys Department, who, over thirty years, produced many excellent maps of the colony. The printing of maps was conducted by individual government departments until 1899 when the Lands and Surveys, Mines, and Public Works Departments lithograph work was combined. In 1919 the printing of maps was placed under the control of the government printer.

Topographic mapping was virtually non-existent in WA until the Second World War. The army had produced a few maps after the First World War, and then one mile, four mile and eight mile to an inch map sheets during and after the Second World War. The first state-produced series was a ten mile to an inch series produced by the Department of Lands and Surveys in the 1940s and 1950s. From the late 1950s, topographic mapping was facilitated by aerial photography and photogrammetric equipment.

Development of the state's cartographic industry was undertaken almost exclusively in government offices; only during the 1960s was there sufficient work in the mining industry for private cartographic offices to become established. The profession was nurtured in the public realm, first by junior draftsmen, and then from 1919 by a system of cadet-ships. Cadet draftsmen were initially trained and tutored within government departments, a Diploma in Cartography (TAFE) being first established in 1950 and later a Bachelor of Science at Curtin University. The cadet system was efficient and thorough, and the state's cartography was greatly enriched by many competent and skilled cartographers trained in this system.

From the 1950s private road and tourist maps increased map production in WA, although map printing in the state greatly diminished from the 1990s as new technologies allowed online access to maps. In the early twenty-first century, government and private map production continues in WA with nautical, geological, road and tourist maps being major examples. The state's mapping history is preserved in library and archive collections. **Brian Goodchild and David Whiteford**

See also: Foundation and early settlement; Roads; State Records Office; Surveying
Further reading: J. L. B. Jackson, *Not an idle man: a biography of John Septimus Roe: Western Australia's first surveyor-general, 1797–1878* (1982); I. Llewellyn and E. I. Turpin (eds), *Cartography in Western Australia* (1966)

Catholic church Catholicism took institutional shape in Western Australia after a Perth schoolteacher, Robert D'Arcy, wrote to church authorities in Sydney in 1841. John Polding, Benedictine Vicar Apostolic of New Holland, raised the question of pastoral provision while in Rome. (Perth's Catholics comprised 337 in the census of 1848, 7 per cent of the total population, and were generally unskilled and uneducated, socially, economically and politically disadvantaged.) Archbishop Polding returned to Sydney in 1843 and appointed the Irishman John Brady his Vicar General in Perth. Brady, together with a Belgian priest, John Joostens, and a catechist, Patrick O'Reilly, arrived in Fremantle on 8 December 1843 Governor Hutt assigned Brady a land grant on Victoria Avenue. Three weeks later, on 27 December 1843, the foundation stone of the small church of St John was laid: a rare remaining example of early colonial ecclesiastical architecture. It also served as a school, education being an abiding concern of Australian Catholicism. Without

Polding's permission, after little more than two months in Perth, Brady sailed for Rome. There he pleaded his case for establishing an independent diocese. The authorities were impressed by his exaggerated estimates of Aboriginal and European settlement. Pope Gregory XVI established the diocese of Perth in May 1845.

Brady used his time in Europe to recruit personnel, returning in 1846 with twenty-seven missionaries including Spanish Benedictines, Irish Sisters of Mercy and French Religious of the Holy Heart of Mary. Despite initial enthusiasm Brady soon encountered the pressing problems of material resources. Joseph Serra and Rosendo Salvado were sent to the Victoria Plains to establish what in time became the famous Abbey of New Norcia. The French journeyed to King George Sound, and, under the indomitable leadership of Mother Ursula Frayne, the Sisters of Mercy arrived in Perth. These women addressed the urgent need for education, although death, defection and inadequate finances hindered their endeavours. Brady's mission, drowning in debt, was rent asunder by internal disputations and departures. Only two Benedictines, six Mercy Sisters, one clerical student and a catechist remained. The subsequent arrival of five French Sisters of St Joseph of the Apparition in 1855 strengthened the meagre provision of Catholic education.

In 1848 Brady dispatched Serra to Europe in search of aid. Rome, however, appointed Serra first bishop of Port Victoria (Darwin). In despair, Brady sent Salvado to Rome. Matters became more complicated when Serra was appointed Brady's *Coadjutor in temporalibus* and Salvado was consecrated bishop to replace Serra in his non-existent diocese. Brady refused Serra's nomination and sailed to Rome to argue his case. Serra's appointment was upheld. Brady, suspended from episcopal duties and forbidden from returning to Perth, promptly arrived back in Perth. This led to schism. Polding's attempts at reconciling Brady to the new canonical realities seemed at first to succeed. Excommunication of Brady and his followers by Archbishop Polding, who had travelled to Perth especially to sort out the mess, finally resolved the scandal.

In 1852 Serra consolidated his impoverished mission by establishing a community of Benedictine monks in Subiaco, now Wembley. They laid the foundations of the cathedral and its presbytery on land originally gazetted for use by the Church of England. Ursula Frayne and two other Sisters of Mercy found Serra's supervision of their ministry untenable and subsequently left for Melbourne at the invitation of its first bishop, James Goold. Salvado returned to his beloved Aboriginal people in New Norcia. On 1 April 1859, Rome separated New Norcia from Perth. In 1867 the mission became an Abbey Nullius, in time extending from the western coast to Southern Cross. Serra resigned in 1862 and was replaced by Martin Griver. Brady, however, then living in Ireland, remained the canonical Bishop of Perth until his death in 1871. Griver did not assume the title Bishop of Perth until 1873. He received moral and practical support from his co-religionist Governor Frederick Weld. A period of internal tranquillity followed.

With the arrival between 1850 and 1868 of nearly 10,000 convicts, 19 per cent of whom were Catholic, and a general increase in population, the percentage of Catholics in the colony had risen considerably, so that in 1870 they represented 29 per cent of the total population. Although only five per cent of convicts were transported from Ireland, many transportees from the north-west of England are likely to have been born in Ireland, and Catholicism in nineteenth-century WA had an abiding Irish flavour.

With the appointment of Matthew Gibney, Griver's Irish Vicar General, as Bishop of Perth in 1886, the influence of Irish clergy and religious men and women became the dominant, though not exclusive, cultural and devotional face of Western Australian

Catholicism. During Gibney's episcopacy the Oblates of Mary Immaculate, Christian Brothers, Redemptorist Fathers, and Sisters from the Presentation, Loreto, Our Lady of the Missions, St John of God and Good Shepherd Congregations, together with other religious, provided a strongly visible Catholic presence. The opening of the St John of God Hospital in Subiaco in 1898 and the expansion of the St Vincent de Paul Society gave practical expression to an ongoing concern for the disadvantaged.

Despite the fact that the percentage of Catholics in the total population fell from 25 per cent in 1891 to 23 per cent in 1901, the gold discoveries of the 1890s resulted in a massive population increase that included an influx of Catholics.

In 1897 Geraldton was declared a separate diocese with William Kelly, born in York, as its first bishop. Mary MacKillop's Josephites, together with Mercy, Dominican and Presentation Sisters, opened many schools in various goldfields districts. The Kimberley, placed under the care of the Pallotines in 1901, became the Diocese of Broome in 1966.

The 1895 *Education Act* and crippling financial debts took their toll. Gibney resigned and was replaced by Patrick Clune CSsR, who became Perth's first Catholic Archbishop and Metropolitan in 1913. Significant additions to St Mary's Cathedral were opened in 1930. The contemplative Carmelite Nuns arrived in 1935. Monseigneur John T. McMahon's 'Bushies Scheme' provided religious education for rural families, an innovative Western Australian pastoral response. The Catholic Church's involvement in post-war child migration schemes left a legacy of controversy, scandal and bitterness that remained unresolved in the early twenty-first century.

Catholic organisations, institutions and parishes multiplied and flourished during the episcopacy of Redmond Prendiville (1935–68). St Charles Seminary opened in 1942, St Thomas More College UWA in 1955, the University of Notre Dame in 1991 (the first Catholic

university in Australia) and Redemptoris Mater Neocatechumenal Seminary in 1994. Catholic education ensured much greater social mobility and professional opportunities for Western Australia's Catholics.

The Irish face of Catholicism continued to evolve—and eventually lost pre-eminence—after Italian, Yugoslav, English and, more recently, Asian migration. About one-third of migrants to WA since the Second World War claimed some attachment to the Catholic faith. This resulted in an immense enrichment of Catholic devotional and cultural life. Not all clergy and laity, however, welcomed such developments with equal sensitivity or enthusiasm.

In 1954 a separate diocese of Bunbury under Launcelot Goody was created. As Archbishop of Perth, Goody (1968–83) steered the Archdiocese through an unprecedented period of liturgical, educational, ecumenical and parochial renewal following the Second Vatican Council (1962–65). The formation of
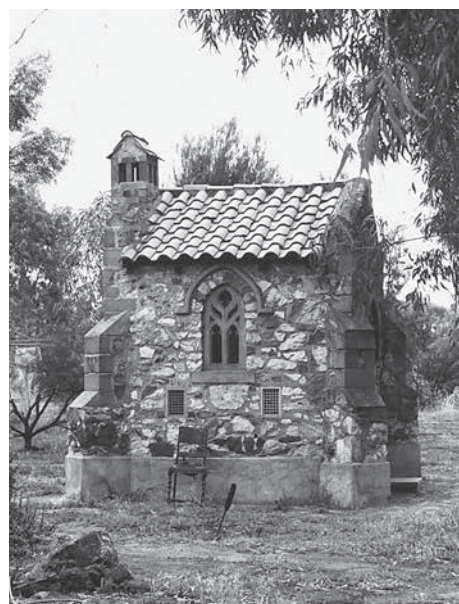
Priest cell, Church of the Holy Cross, Morawa, designed by priest-architect J. C. Hawes, constructed 1932–33, photographed by Ali Sharr, 1982. Courtesy Heritage Council of WA (P01612)

the Catholic Education Commission, Catholic Library, Catholic Institute and Maranatha Institute, along with the establishment of the Catholic Social Justice Council, ensured that Catholic laity were prepared to undertake many roles previously reserved to the clergy and religious. After the episcopacy of William Foley (1983–91), Barry James Hickey was appointed Archbishop in 1991. Under his leadership the Catholic community faces the continuing challenges of secularisation and evangelisation. The decision in 2004 to complete St Mary's Cathedral is a sign of the continuing vitality of the 23.6 per cent (464,004) of Western Australians who described themselves as Catholic in the 2006 census. **Kevin Long**

See also: Catholic lay societies; Child migration; Education, Catholic; New Norcia; Religious orders, Catholic men; Religious orders, Catholic women; Spirituality and religion

Further reading: D. F. Bourke, *The history of the Catholic Church in Western Australia* (1979); G. Byrne (ed.), *Valiant women: letters from foundation Sisters of Mercy in Western Australia, 1845–49* (1981); R. H. Hardiman, *From east to west you gather a people: being Catholic in Australia through eight generations from the convict era to the new millennium* (2003); E. J. Stormon (ed.), *The Salvado Memoirs* (1977)

Catholic lay societies Since the establishment of the Catholic Church in Western Australia in 1843, many societies have been formed to promote the various aspects of the Church's social, professional and philanthropic activities. The first of these, the Hibernian Society, a men's group, was founded in Fremantle in 1878. Not long after, the Sodality of the Sacred Heart was introduced, the accepted spiritual organisation for women at the parish level, along with the Holy Name Society for men.

The Society of St Vincent de Paul was doing good works before 1900 although it was not formally aggregated in WA until 1911. A division of the Knights of the Southern Cross was established in February 1922. Originally intended to counteract anti-Catholic prejudices in business and the public service, it has evolved into a society of reconciliation with fellow Christians, especially in education and establishing homes for the aged. The Newman Society at The University of Western Australia was inaugurated by the chaplain Father (later Mons.) J. T. McMahon in 1924. The 1930s and 1940s was a period of rapid growth, encouraged by Archbishop Redmond Prendiville to counter secularism and Marxism, by involving laity in a variety of religious, social and cultural activities. Societies established in WA at that time included the Third Order of St Francis, the Catholic Women's League, the Catholic Teachers Guild, the Legion of Mary, and the Sodality of Our Lady, the Therry Society (for drama) and the Guild of St Luke for Catholic Doctors.

During the Second World War, several societies were established in the state with a wider outreach. The Catholic Girls Movement, originating in 1942, affiliated in 1946 with the national movement (NCGM). The Young Christian Worker's Movement, established in 1945, had thirteen suburban and three country branches within a year. The National Catholic Rural Movement was also launched in WA in 1945, with groups formed in almost every country parish.

Over time, some societies became defunct, and others changed their names. In 2006 there were more than eighty active Catholic organisations in existence, covering a very wide range of social services, charitable activities and specialist professional or vocational groups. **Geraldine Byrne**

See also: Catholic church; Spirituality and religion

Further reading: D. F. Bourke, *The History of the Catholic Church in Western Australia*

1829–1979 (1979); G. Byrne, *A Basilica in the making: the centenary of St Patrick's, Fremantle* (2000); G. Byrne, *Built on a hilltop: a history of the Sisters of the Good Shepherd in Western Australia, 1902–2002* (2002)

Caves In 1827 the NSW colonial botanist Charles Fraser, in company with Captain James Stirling, visited the caves in the cliffs of Cape Naturaliste. In his report Fraser described the strange shapes of the stalactites and stalagmites, which were best developed on the side facing the sun. He was the first to record this phenomenon, and correctly ascribed it to the growth of blue-green algae stimulating mineral deposition.

Then, in 1838, Sir George Grey explored the Kimberley region and found many sandstone caves with their spectacular Aboriginal art. He did not enter far enough inland to see the remarkably intact Devonian coral reef, which now stands high above sea level as the Western Ranges. The spectacular gorges and caves found here and also in the Ningbing Ranges on the eastern flanks are of immense interest. The caves of the Nullarbor Plain were recognised by Surveyor A. E. Delisser in 1866–67, and then explored at the turn of the century by staff of the Overland Telegraph Office at Eucla.

The first recognition of the now well-known caves of the south-west corner probably happened very soon after the first settlers arrived, but was not documented at the time. They attracted little notice until 1900, when they were described by Charles Erskine May, who became an enthusiastic advocate of their beauty and tourism values. As a result they were rapidly developed and made accessible for tourism.

Apart from these few early investigations, cave exploration and research was limited and fragmented for many years. Surveyor Marmaduke Terry mapped many caves of the South-West in 1900. There was also some study of the fossil mammals from Mammoth

Cave soon afterwards. Many of the Nullarbor Caves were visited and investigated (1933–60) by Captain J. Maitland Thompson of South Australia with his colleagues. Thompson was the first to use aircraft to locate caves. In later years, a group from the Kalgoorlie Technical College joined him.

Continuing systematic exploration and research commenced in 1958. The Augusta Jewel Cave was discovered and explored by Cliff Spackman, Lex Bastian and Lloyd Robinson (an experienced cave explorer visiting from New South Wales). This provided a key stimulus, and at the same time the distinctive geomorphic history of the South-West was recognised for the first time.

The Cape Range caves, first explored in the 1960s, are now famous as having the greatest diversity of subterranean invertebrate fauna anywhere in the world. This remarkable fauna includes species left behind from the Tethyan Ocean, of which the most important and interesting are the remiped crustaceans. These have survived virtually unchanged since the breaking up of the first continents and their only other relatives are found in a few areas on the fringes of the Atlantic Ocean. Both here and elsewhere in WA there is a great diversity of invertebrates that are specifically adapted to the subterranean environment. These are generally known as troglobites and their study makes a major contribution to our understanding of both evolution and geoclimatic history. They and their habitat are extremely fragile.

In 1958 the Western Australian Speleological Group (WASG) was established as a special interest group within the Western Australian Naturalists Club. Lex Bastian was elected as the foundation president, and has provided continuing leadership to speleology in WA. In 1967 the group became autonomous, although remaining closely associated with the Naturalists Club. At the same time, a continuing interest in speleological research evolved and grew among researchers from both The University of Western Australia and

the Western Australian Museum. The Speleo-logical Research Group of Western Australia, under the continuing leadership of Norman Poulter, was formed in 1973. Cavers Leeuwin, established in 1995, based in the South-West, grew from local members of WASG. All three are members of the Australian Speleological Federation.

Virtually all caves in the state relate to the groundwater, each region in its own way. In the South-West, as a result of declining rainfall and excessive extraction of water, the watertable has dropped alarmingly over the last thirty years, particularly the last five or so—to the extent that many 'wet' caves are now dry or almost so. At the other extreme, in the other major areas, there are a number of caves only accessible by divers. Cocklebiddy Cave (Nullarbor) was at one time the world's longest cave dive, but this is now surpassed, at least in Mexico.

A major shift in thinking has been to realise that caves can only be fully under-stood by examination of the total karst land system within which they occur. The term karst refers to land systems that have been principally shaped by solution. This is most commonly found in limestone, but may also occur in other rocks, including the quartzitic sandstones of Purnululu (Bungle Bungles).

Cave studies since the 1950s have focused on: Cape Range and its fauna; the faunal community of invertebrates living on plant root mats in the south-western caves; understanding of south-western water movements; geology; mineralogy; Aboriginal prehistory; and fauna and the remarkable assemblage of fossil mammals from the Nullarbor.

Purnululu is inscribed on the World Herit-age register, and a nomination of the Cape Range area is currently in preparation. An expert meeting that reviewed the cave and karst areas of the Asia–Pacific region also recommended nomination of the Western Kimberley, the Nullarbor Plain and the South-West. WA has a subterranean natural and cultural heritage that is significant at the highest level. Many cave-related phenomena were first recognised in WA, and some areas are virtually unique in the world. It is of fundamental importance that these invaluable sites are properly protected and conserved. **Elery Hamilton-Smith and Norman Poulter**

See also: Aboriginal art, pre-contact; Caves, tourism; Ecotourism; Environment; Geologi-cal history; Geology; National Parks
Further reading: B. Finlayson and E. Hamilton-Smith (eds), *Beneath the surface: a natural history of Australian caves* (2003); W. F. Humphreys and M. S. Harvey (eds), *Subterranean Biology in Australia 2000* (2001)

Caves, tourism The beginning of cave tour-ism in Western Australia was the result of continuing requests from Frances Brockman to Premier John Forrest, in which she asked that he take action to protect the beautiful caves of the South-West. Eventually, the premier responded by asking Charles Erskine May, the Chief Inspector of Lands, to visit the area and report on the caves. His report on the limestone caves of the Yallingup/Margaret River area stimulated appropriate develop-ment of the state's tourism infrastructure. The state government set up the Caves Board (1900–10), primarily to protect the fragile nature of the forty-five caves and to develop the area for tourism.

The Board's high-profile members, led by Sir J. W. Hackett, spent £35,000 developing roads, accommodation, travel packages and safety features to manage access to the caves. E. Robinson was extraordinarily successful in managing the operations and the local, national and international promotion of the caves as a tourist destination. The Board took control of the Yanchep Caves in 1909 but was dissolved in 1910 following the mass resignation of its members. Control of the caves passed to the State Hotels

Department, which included tourism within its portfolio.

A £3 three-day package tour with train travel from Perth to Busselton, horse-drawn coach travel to Yallingup and then on to the Yallingup caves was considered cheap in 1906. Caves House at Yallingup opened as a modest hostel in 1904 with tennis courts and a billiards room and was extended in 1911 to 134 beds. In 1921 Caves House accommodated 2,500 guests, while 5,000 paid for admission to the Yallingup caves. In 1938 a landmark two-storey brick and tile Old English-style hotel was built on site to cater for increasing numbers of visitors.

Edward Dawson acted on his own initiative to develop and manage the Yallingup Caves. Further south, another pioneer explorer, Tim Connolly, was caretaker and guide at the Margaret River caves for over forty years from 1900.

Public access to the Yanchep caves was limited until the State Gardens Board, with visionary leadership by L. E. Shapcott, took control of Yanchep Park in 1931. During the Depression years, and largely through the contribution of a sustenance labour force with project support from philanthropist Charles McNess, Yanchep Park became the premier daytrip and resort destination from Perth. The road from Perth was bituminised and tennis courts, a playing field and a swimming pool were constructed. Gloucester Lodge, an elegant two-storey limestone and timber Old English style guesthouse, opened in 1932. A nightclub was opened within Silver Stocking Cabaret Cave, also known as Crystal Cave, and this has recently been redeveloped. Yanchep quickly become the premier daytrip and resort destination from Perth, but the caves are no longer the sole reason for visiting Yanchep. **Lynn Fisher**

See also: Augusta; Caves; Margaret River; State hotels; Tourism
Further reading: J. Davidson, *Holiday business: tourism in Australia since 1870* (2000); B. Finlayson and E. Hamilton-Smith (eds), *Beneath the surface: a natural history of Australian caves* (2003); State Register of Heritage Places, http://register.heritage.wa.gov.au

Cemeteries The colonists who settled Western Australia in 1829 came to create a new life, but one of the first and more sobering tasks of the new establishment was to survey and set aside land for a cemetery. Instructions had been provided to James Stirling to set aside 'vacant spaces which will in future times be required…as the sites of Churches, Cemeteries, and other Public Works of utility and general convenience'. As a result, a general cemetery on high land was established at the eastern end of the town of Perth, in November 1829. A similar cemetery was laid out in Alma Street in Fremantle. The management of the cemeteries was vested in the Church of England. In both places the first recorded burials took place in 1830. In 1847 an official proclamation allocated public cemeteries in Perth, Fremantle (Skinner Street) and Guildford and remained until the *Cemeteries Act* (1897).

In 1899, pressure of numbers and encroaching suburban development led to the establishment of Karrakatta and Fremantle cemeteries. As with the earlier cemeteries, the various sections in the public cemeteries were determined by religious denomination while providing for non-sectarian burials, including stillborn graves. The cemeteries were under the control of a secular Board of Trustees appointed by the government of Sir John Forrest. The first Chairman of the Karrakatta Board was Alexander Forrest, Mayor of Perth. Later chairmen included Sir John Winthrop Hackett, Thomas G. A. Molloy, Sir Thomas Meagher and Lance Howard. Lionel Boas served as Secretary for forty-four years. In Fremantle, the first Board Chairman was Elias Solomon, first MHR for Fremantle, 1901–03.

During the nineteenth century, as settlement occurred across the colony, many burials took place in local churchyards, in accordance with the deceased's denomination. However, widespread settlement meant that not all burials took place in registered cemeteries and there are some two thousand 'lonely graves' scattered throughout the state.

Regional and district cemeteries were established, often under the control of local government authorities. In such cemeteries, headstones and grave coverings were often improvised from local stone and other material at hand. Cot rails around the graves of young children are common, both as decoration and as an improvised form of protection. In Mullewa, architect and priest John Hawes designed a miniature church to commemorate the death of a choirboy. These cemeteries provide a rich source for genealogical research, showing the dispersal of families and individuals throughout the state. In some instances, only the cemetery remains as evidence of a former town—a poignant 'ghost town'.

Australia's largest Japanese cemetery is in Broome, with some 707 graves of the many Japanese who died establishing Western Australia's pearling industry. Many of the graves are distinguished by the use of local beach rocks as headstones and are a popular tourist attraction. Fremantle cemetery has, likewise, become a tourist attraction with fans making pilgrimages to the grave of Bon Scott, lead singer of rock music group AC/DC.

Cremation was introduced in Western Australia for some religious purposes and to control infectious diseases in the nineteenth century; however, it was not introduced as a general alternative to burial until 1937, with the construction of a crematorium at Karrakatta. Crematoria were later built at Fremantle, Albany, Bunbury, Geraldton and Kalgoorlie. 'Memorial Parks', for the commemoration of ashes, were often constructed as landscaped gardens with naturalistic features. Today, many serve as parks for the local community and are often used as backgrounds to wedding photography, such as the world-renowned Pinnaroo Valley Memorial Park, established in 1962, in the northern suburbs of Perth. In recent years, aboveground burial mausolea have also become more evident, reflecting the influence of postwar migration of southern Europeans to Western Australia.

Traditional Indigenous burial customs have not, for the most part, been recognised, although separate cemeteries—in the European tradition—were established where there were significant numbers of Aboriginal people; for example, at the native prison at Rottnest and at the native settlement at Moore River. In keeping with changing mores, in 2000 Karrakatta established a 'Keeping Place' where repatriated remains can be held prior to return to the traditional custodians and interment on traditional lands.

In the twenty-first century, with families more widespread, 'virtual cemeteries' are increasing in popularity in tandem with cremation. In 2002, Karrakatta became the first cemetery in Australia to provide web broadcasts of funerals through an online 'virtual cemetery' where families are able to commemorate loved ones via the world wide web. **Felicity Morel-EdnieBrown**

See also: Asian immigrants; Death; Moore River mission; Rottnest Island Native Prison; War memorials
Further reading: Y. Coate and K. Coate, *Lonely graves of Western Australia & burials at sea* (1986); L. Gilbert, *A grave look at history: glimpses of a vanishing form of folk art* (1980); L. B. Liveris, *Memories eternal: the first 100 years of Karrakatta* (1999)

Censorship In simple terms, censorship is a restraint of the common (unwritten) law rights of citizens to freedom of speech. In England up until the sixteenth century, censorship for political and religious purposes

was widespread. However, in 1769 William Blackstone in his famous *Commentaries on the Laws of England* was able to note that every freeman and the press had this freedom subject only to accepting consequences for 'improper, mischievous or illegal publications'. This principle, inherited from England, is part of the unwritten law which applies in Australia. Our civil laws, aimed at restraining defamatory statements or comments through court action on the part of those who claim to be defamed, can be defeated if the defendant can establish the truth of the matters of complaint and, in some cases, a lack of malice. From the mid nineteenth century, legislation in Western Australia gave newspapers immunity from civil or criminal action for printing fair and accurate reports of open court proceedings and public meetings.

The WA *Constitution Act* in 1893 gave complete protection to statements made in parliamentary proceedings. The first legislation in this state to censure free speech generally was introduced in the *Indecent Publications Act 1902*, which called for the prosecution of anyone who printed, sold, published or distributed or exhibited all manner of writings or pictures that were indecent or obscene. Newspapers could not be prosecuted unless they had first received a warning not to print by a police officer. The Act exempted works of literary merit or bona fide medical works, but placed the onus of establishing this on the defendant. Prosecutions in WA in the mid twentieth century arising from the stage production of a play involving male nudity (*Equus* by Peter Shaffer) and the publishing of a book dealing with masturbation (*Portnoy's Complaint* by Philip Roth) were dismissed on grounds of 'literary merit'.

On Federation the Commonwealth government was able to enter the field of censorship. Whereas each state has generally unimpeded power to legislate to maintain peace, order and good government, the Commonwealth is limited to exercise powers given in the Australian Constitution. However, it has been able to legislate and regulate censorship of members of the armed services under its defence powers (section 51(vi)); to reject or classify films under its trade and commerce powers (section 51(i)) and to regulate the censuring of radio and television under its posts, telegraphics and telephonic powers (section 51(v)).

In the latter half of the twentieth century, the Commonwealth and state governments started to coordinate most censorship laws. However, the Commonwealth, under its 1947 *Broadcasting Act* and amendments, retains exclusive power to censor blasphemous indecents and obscene matters in TV and radio programs.

WA parliament passed the *Censorship of Films Act* in 1947 to regulate the rejection or classification of films. Power was given to enter into consultation with the Commonwealth on the administration of the Act. In 1987 the *Videotapes Classification and Control Act* was passed by the state to censure and classify video tapes and games.

A joint agreement in 1990 to refer censorship laws to the Law Reform Commission of Australia by the Commonwealth and each state led to each enacting similar legislation. WA passed the *Censorship Act 1996*, which overtook all the earlier censorship acts. The WA Act provided for appointment of a Board to classify and control the distribution and publication of objectionable material, including that which appeared on the Internet. Eventually the Act was amended in 2003 to vest administrative power to reject or classify in the Commonwealth Board, with enforcement of decisions left to the State.

Present legislation is still construed by all courts so as to place little restriction on civil and political rights as is necessary, but accepting that these rights are conditional on obligations of public interest and public good to respect the views and reputation of others; the protection of national security, children and disadvantaged persons; the avoidance

of national and religious discrimination and of violence and the infringement of other rights arising from Australia's adopting the International Covenant on Civil and Political Rights (1966).

Boards which administer the rejection or classification of objectionable material are usually obliged to take into account contemporary views of what is the 'public good', including standards of morality and decency accepted generally by reasonable people, as well as literary, artistic and educational merit (if any), the general character of the publication and the class of the intended or likely recipient. Restrictions rather than classifications are usually based on sex and drug misuse and addiction and crimes of violence and for the Commonwealth national security issues. How these powers are exercised and continue to be exercised will vary according to contemporary public standards. Decisions are subject to appeal.
Barry Rowland

See also: Fiction; Film; Law

Census While there were head-counts of the Western Australian population in 1832 and 1837, the first systematic census was not taken till 1848. Since then there have been twenty further enumerations. The census of 1881 was taken simultaneously in all the Australian colonies as part of the first simultaneous census of the British Empire, a practice that was continued until Federation in 1901. After Federation, censuses were Australia-wide, the first being taken in 1911 and regularly thereafter until 1961, since when they have been conducted at five-yearly intervals by the federal government.

The census records the population actually in Western Australia, persons being enumerated at the place where they spent the night of the census, whether or not it was the usual place of residence. Diplomatic representatives and their families are exempted, but

no others, not even passengers and crew on a ship in port. Prior to the census of 1971, full-blood Australian Aborigines were also excluded. This omission was legally rectified in 1967 and is reflected in enumerations after that date.

Post-enumeration surveys designed to measure the degree of error in a census were conducted after 1966 and for subsequent censuses by specially trained interviewers. Under-enumeration is common and this is corrected by comparing results from the census and the post-enumeration survey for the same individuals, and identifying omissions and duplications in the census.

For dates other than those of the periodic census of population, estimates are based on records of births and deaths and movements of population interstate and overseas. Because the available records of interstate movement are incomplete, these intercensal estimates are approximate and are revised when the results of the next census becomes known.
Ian H. vanden Driesen

See also: Citizenship, Aboriginal; Population
Further reading: I. Berryman (ed.), *A colony detailed: the first census of Western Australia, 1832* (1979)

Chamber of Minerals and Energy of Western Australia is the peak representative body of the state's minerals and energy industries. First incorporated as the Chamber of Mines of Western Australia in 1901, it unified the Coolgardie Chamber of Mines and Commerce (est. 1895) and the Kalgoorlie Chamber of Mines (est. 1896), both formed to advance the interests of goldmining leaseholders and companies. The first president of the Chamber of Mines was Richard Hamilton, general manager of Great Boulder mines, who held the position until his death in 1943. An important early role of the Chamber was to represent its members in the conduct of wage cases before the Arbitration Court.

Advocacy and education are the Chamber's principal functions. In particular, it articulates the views of the resources sector to state and Commonwealth governments and strives to promote an appreciation of the minerals and energy industries within the broader community. The Chamber's range of interests and its influence have grown with the sector, notably during the mining boom and diversification of the 1960s. It has had two name changes—most significantly the addition of 'Energy' in 1989, reflecting the increasing importance of oil, petroleum and natural gas.

The Chamber's list of life members is a who's who of Western Australian mining, including such names as Laurence Brodie-Hall, Reg Buckett, Peter Lalor, Malcolm Macpherson, Jack Manners and Peter Wreford. **Ken Spillman**

See also: Mining and mineral resources
Further reading: K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993)

Chemistry deals with the structure and properties of every substance on Earth, so it is not surprising that it impinges on many aspects of life and industry in Western Australia.

Formal teaching of chemistry commenced in May 1900 when the new Perth Technical School offered an Assayers Certificate with instruction by Alex Purdie, the colony's first qualified chemist and also the first Director General of Technical Education in WA. In 1918, Isaac Boas, a later lecturer, discovered the process of making paper from hardwoods. Teaching at university level began in 1913 with the establishment of The University of Western Australia's Department of Chemistry under Professor N. T. M. Wilsmore. Subsequently, N. S. (later Sir Noel) Bayliss, who came to the chair of chemistry at The University of Western Australia (UWA) in 1938, greatly stimulated chemical research

there. His first major project was based on the chemistry of alunite clay (which occurs in Lake Campion, a dry lake near the town of Chandler, 30 kilometres north of Merredin) as a potential source of potash fertiliser and alumina for the production of aluminium. This led to a commercial plant producing potash at the lake site in 1943 that ran until 1949, by which time it had become cheaper to import the fertiliser. The alumina side of the investigation indicated a possible extraction method, but was superseded by the discovery of extensive deposits of bauxite in the Darling Range.

The UWA Chemistry Department later concentrated on more fundamental chemistry involving molecular structure determination based on spectroscopy, X-ray crystallography, nuclear magnetic resonance and theoretical chemistry together with inorganic coordination chemistry, natural product chemistry (alkaloids, terpenoids, carbohydrates), synthetic chemistry and chemical education. R. B. Bucat was commissioned by the Australian Academy of Science in 1983–84 to produce the high school textbook *Elements of Chemistry—Earth Air Fire & Water*, while A. H. White received a citation in 2004 acknowledging that his papers on crystallography have been among the most often cited in worldwide chemical literature.

The Western Australian Institute of Technology (later to become Curtin University of Technology) evolved from the Perth Technical College in 1964 and specialised in analytical chemistry, mineral and petroleum chemistry, environmental geochemistry and chemical engineering. CSIRO in WA has concentrated on mineral processing and chemical processes in geology. Murdoch University established the A. J. Parker Collaborative Research Centre for Hydrometallurgy, which has become a leading research organisation in that field, with particular emphasis on copper and gold hydrometallurgy, metal displacement reactions and alumina and base metal chemistry.

The WA Government Chemical Laboratories, consisting of Toxicology, Food and Drugs; Mineralogy, Mineral Technology and Geochemistry; and Agriculture, Water Supply and Sewerage sections, provided analytical, advisory and chemically related services to most government agencies from 1922 to 1987 when they were renamed the Chemistry Centre (WA). The Centre now specialises in forensic science, emergency response activities and chemical investigations related to agriculture, the environment and occupational health.

The economy of WA depends heavily on agriculture and minerals, and both of these fields have involved large-scale chemical industry. Australia as a continent is largely deficient in phosphorus, an essential nutrient for plant growth, and the early establishment of superphosphate manufacture was extremely important for the wheat industry. Mt Lyell Mining & Railway Company and Cumming Smith & Co set up superphosphate works at Bassendean and North Fremantle in 1910, producing a total of 28,000 tons in the first year. The two companies merged in 1927, forming Cumming Smith Mt Lyell Farmers Fertiliser Ltd (CSML), and in that year total production reached 200,000 tons. Subsequently, CSML commissioned new works at Bunbury and Geraldton (1930), Albany (1954) and Esperance (1962). In 1964, British Petroleum bought a share of the company and the name changed to CSBP & Farmers Ltd. They established a further fertiliser manufacturing plant at Kwinana (1967) and closed the Bassendean and North Fremantle works in 1971. In 1984 CSBP sold 1,103,430 tonnes of fertiliser. Later developments at the company's Kwinana site involved the production of industrial chemicals such as sulfuric acid (1967), phosphoric acid, ammonia, nitric acid and ammonium nitrate (1968). The last of these, while an excellent nitrogenous fertiliser, is produced principally for use as an explosive in the iron ore mining industry. Other products from the same plant now include hydrochloric acid (1984), and chlorine (supplied to the Water Corporation for water purification) (1987). Wesfarmers became the sole owner of the company in 1986 and in 1988 commissioned an additional plant for supplying sodium cyanide to the WA gold-mining industry. The starting point for both ammonium nitrate and sodium cyanide is natural gas—until very recently CSBP was the only company in the state using natural gas as feedstock for chemical processes.

A more recent development in this field has been the opening of the world's largest liquid ammonia plant on the Burrup Peninsula (2006) by Burrup Fertilisers (production capacity 760,000 tonnes per annum), also using natural gas as feedstock.

The important chemical processes in the minerals area include the extraction and refining of gold (Kalgoorlie, 1890s onwards) and nickel, the production of high-grade alumina from bauxite and the production of titanium dioxide. The Alcoa alumina refineries at Kwinana (1963), Pinjarra (1972) and Wagerup (1984), together with a similar plant at Worsley (Reynolds Metal Co. and BHP—1980) produce very pure aluminium oxide for aluminium extraction. The Kwinana nickel refinery (established by Western Mining Corporation—1970—and recently taken over by BHP Billiton—2005) is the world's third largest producer of refined nickel. Laporte Titanium (now Lyondell Chemicals), near Bunbury, was established in 1962–63 to produce titanium dioxide (the principal pigment in paint manufacture) from WA beach sands.

Finally, the state's organic natural products have also been exploited. Between 1919 and 1975 Plaimar Ltd produced sandalwood and boronia oils in their factory in West Perth. From 1932 to 1971 a subsidiary company, Industrial Extracts Ltd, manufactured tannins for leather making in factories in Belmont, Boddington and Toodyay. **Andy A. R. H. Cole**

See also: Alumina; Curtin University of Technology; Gold; Mining technology and mineral processing; Murdoch University; Nickel; University of Western Australia

Further Reading: G. Blainey, *White gold—the story of Alcoa of Australia* (1997); A. R. H. Cole, 'Noel Stanley Bayliss 1906–1996, *Historical records of Australian science*, 11, 2 (1996)

Child care Before the introduction of the *Community Welfare (Care Centres) Regulation (1968)*, informal childcare arrangements prevailed. In 1970, four Commonwealth government subsidised childcare centres, twenty-four private/for profit centres, one occasional care centre and nine family day carers provided 822 childcare places. Provision of child care increased rapidly in the next ten years but was unable to meet growing demand as greater numbers of women participated in the workforce.

In the early 1980s the Lady Gowrie Centre, originally founded as a model to promote better child health, development and care, relocated from Victoria Park to Karawara and served as a model of a community-based, multipurpose childcare centre. Between 1983 and 1992, joint venture arrangements between Commonwealth and state Labor governments resulted in major expansion of non-profit community centres, family day care, occasional care and outside school hours care. Better access to child care for Aboriginal children, children from non-English speaking backgrounds, children with disabilities and children in rural and remote areas was also achieved. In 1988 the state's *Community Services Act (1972)* was amended, and related regulations introduced to provide for the licensing of child care as a mainstream community service.

In the 1990s, following Commonwealth funding changes, rapid expansion continued in response to demand from working women resulting in the emergence of commercial

child care. By 1997 there were 1,728 licensed childcare services in WA. In the late 1990s policy and funding changes resulted in childcare fees rising. Some parents withdrew their children and many services closed. By 2001 the number of services in the state declined to around 1,400.

In 2000 further Commonwealth policy and funding changes resulted in improved fee relief for parents and provided improved business opportunities for commercial operators. By 2002 a new trend had emerged with large national childcare organisations investing in WA, as in other states. There was a concomitant expansion across all service types, including outside school hours care services, for which regulations were gazetted in 2002.

By early 2004 there were 488 centre-based services, 210 outside school hours care services and 901 family day carers with an estimated daily attendance of 70,000 children. In 2006 the number of centres increased to 543 while the number of family day carers dropped to 762.

Throughout the past thirty years, child care has been a contentious issue, relating as it does to women's role in the family, the labour market, children's development and family wellbeing. **Jill Cameron**

See also: Baby farming; Child development; Children; Gender; Work, paid; Workers

Further reading: Australian Institute of Health and Welfare, *Trends in the affordability of child care services 1991–2004* (2006); Economic Planning Advisory Commission, *Child care: a challenging decade* (1994)

Child development During the early decades of the twentieth century, in response to concerns about infant mortality and the declining birth rate, the state attempted to reform the domestic environment partly through the provision of child health and welfare services. Because many infant deaths were considered

preventable, these agencies focused on teaching mothers infant care and hygiene, thereby intervening in child rearing and home management practices. From the early twentieth century there was also increasing recognition of the importance of children's early experiences on their development.

In WA, the earliest organisations involved in child health and welfare were the Children's Protection Society, the National Council of Women, the Kindergarten Union and the Women's Service Guild. The services that they initiated were largely established through volunteer fundraising and donations, only later funded by government. The middle-class women who belonged to these early organisations sought to provide assistance to working-class mothers in the care of their children. Early achievements of these organisations in relation to children's welfare included the introduction of the *State Children Act* and the establishment of the Children's Court, both in 1907, and the Children's Department, Children's Hospital and a day nursery, in 1908.

From 1906 a school medical officer, appointed by the Health Department, undertook medical examinations of some children. The first permanent officer from 1918 was Dr Roberta Jull, the first woman to establish a medical practice in Perth, in 1897, and who played a leading role in the state's infant welfare movement. In 1911 the Kindergarten Union, formed from the membership of the older women's organisations, opened Perth's first free kindergarten and, in 1913, the Kindergarten Training College.

In 1922 the Infant Health Association was formed as an initiative of the Children's Protection Society. The first Infant Health Centre was established in Subiaco in 1925. Limited funding was provided by state and local governments, supplemented by the fundraising initiatives of local residents. From 1928 King Edward Memorial Hospital ran a training program for infant health nurses. Infant health nurses provided education to mothers about infant and child care, with a particular focus on breastfeeding. For those mothers who could not attend a clinic, correspondence nurses answered letters; by 1940 they were working with 1,500 mothers. They also gave radio talks and wrote articles for thirty country newspapers. From the mid 1950s the role of infant health nurses expanded to include responsibility for preschool children. Renamed child health nurses, their work included encouraging families to immunise their children, initiating playgroups, providing first aid and hygiene instruction, and teaching parenting skills. Some of these programs targeted disadvantaged families, reflecting a concern with inequalities in health outcomes. In 1948, training for mothercraft nurses, under the auspices of the Nurses Registration Board, began at the Alexander Home for Mothers and Babies (later Ngala).

Nursery schools were also established, based on those introduced in Victoria. With support from the then wife of the governor-general, Lady Gowrie, 'demonstration centres' for preschool development were established in each capital city, funded by the Commonwealth Department of Health and with local committees of management. These centres were to be models for other similar services, through the research that was undertaken with children at the centre. In Perth the Lady Gowrie Centre was established in Victoria Park in 1940 and the children who attended were drawn from the surrounding area. Early programs focused on nutrition, physical development and general health and parental child-rearing practices. By the late twentieth century, the Gowrie Centre provided a range of childcare programs, family support services, resettlement assistance to newly arriving migrants and refugees, financial counselling and other community work activities.

During the 1970s, further services developed, addressing the developmental needs of children. In 1973 Dr Audrey Little established the Child Study Centre as part of the Department of Psychology at The University

of Western Australia. In the early twenty-first century, the centre still provides preschool education and includes a special needs unit for children with language and social difficulties, in partnership with the Department of Education and Training. The preschool is used in postgraduate and undergraduate teaching in developmental psychology, and research undertaken at the centre develops best practice in early childhood education.

The State Child Development Centre, initiated by Dr Trevor Parry in 1973, began as a small assessment clinic for children with disabilities as part of the Child Health Services. This centre expanded from 1975 with increased resourcing from Commonwealth community health funds, remaining part of the Health Department until 1995, when it became an autonomous centre under the management of the conjoint Board of the Princess Margaret Hospital and King Edward Memorial Maternity Hospital. The Centre continues to function as a multidisciplinary team for the initial assessment and management of children with a range of developmental disabilities and their families.

At the beginning of the twenty-first century, those involved with child development services continue to draw attention to the importance of the early years of children's lives, the need to identify and respond to concerns as soon as possible and to coordinate the provision of children's health services. **Suellen Murray**

See also: Child care; Child health; Children; Disability, intellectual; Education, early childhood; Infant mortality; King Edward Memorial Hospital (KEMH); Ngala; Nursing; Princess Margaret Hospital; Psychology; Public health; Women's Service Guild
Further reading: P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); C. D. J. Holman and H. M. Coster, 'The history of community and child health services in Western Australia', in D. Holman, *Report of the Special Consultant on Community and Child Health Services*, 1 (1991); E. J. Mellor, *Stepping stones: the development of early childhood services in Australia* (1990)

Child health On their arrival in the Swan River colony, it was expected that children of British migrants would thrive in a healthy climate and isolated from infection. However, infant sickness and infant mortality soon became apparent and the problem grew. By 1907 one-quarter of all European deaths in the colony were of infants under one year, and one in ten did not survive the first year of life. Of infant deaths, 30 per cent were caused by gastroenteritis.

Most epidemics started with visiting ships and the colony experienced smallpox (in 1869, but never repeated because of vaccination and quarantine), measles, pertussis and diphtheria. The greatest challenge for medical authorities was typhoid, first recorded in Western Australia in 1833 and endemic by 1852. During the catastrophic epidemic of the 1890s, children's deaths matched births, five hundred of each in 1895.

The First World War years saw a more general concern with loss of life engender a greater awareness of infant mortality. In 1917, Baby Week was inaugurated with the slogan 'Save the Babies'. Emphasis was put on a child's social and economic environment, sanitary and lifestyle improvements and the need for pure water and milk and safe food.

In 1920 and 1921 the infant mortality rate rose due to infantile diarrhoea, whooping cough, increased diphtheria and measles. In 1922 the rate for WA was the highest in Australia, with the exception of Tasmania, and 33 per cent higher than the figure for New Zealand. In his Annual Report for 1929–30, the Commissioner of Public Health admitted that diphtheria was out of control and was probably the greatest problem faced by health authorities. Mass swabbings had taken place in schools to isolate cases, carriers and contacts; however, it was to no avail. There

was no mass immunisation campaign and diphtheria cases increased.

Meanwhile, in May 1922 the Children's Protection Society had organised a meeting with other interested organisations to consider the establishment of infant health centres. The Infant Health Association was formed, with Perth City Council and Health Department support. Three centres were immediately established in Perth under a qualified nurse. By 1938 there were twenty-six infant health centres in the state. Local committees raised money for building, maintenance and staffing, but received little help from government. It was not until 1945, with the threat of centre closures, that the state government decided to take more financial responsibility for infant health in the state.

Poliomyelitis (infantile paralysis) epidemics in 1948, 1954 and 1956 made an impact not through deaths (as in diphtheria), but through visible survivors in the community: weak if adults; deformed in growth if children; and in iron lungs if unable to breathe unassisted. The Salk (and later Sabin) vaccine program, aimed particularly at children, virtually eradicated polio in Australia. This success boosted the long-delayed acceptance of other immunisations. Diphtheria and tetanus became history, and pertussis was markedly diminished as a result of immunisations.

The period since 1929 has seen huge advances in child health. Particularly notable on an international scale has been the work of Telethon Institute of Child Health researchers Professors Carol Bower and Fiona Stanley, in helping to identify the role of folate in preventing neural tube defects such as spina bifida in babies, and then initiating the world's first public health folate campaign.

At the start of the twenty-first century, fewer than five per one thousand infants die before their first birthday. However, Western Australian children now face a different, more complex set of problems, such as mental health problems, suicides, risk-taking behaviours, drug, smoking and alcohol abuse,

Opening of baby clinic at East Victoria Park, 1 October 1939. Courtesy West Australian *(PP6656)*

depression, obesity and eating disorders. There are also problems related to the environment, such as respiratory diseases caused by internal and outside air pollution. Problems of poverty and inequity in society also affect Western Australian children. Although there have been improvements, many Indigenous families with children are living in conditions of real deprivation, with rates of death and illness higher than those of non-Indigenous children. **Desmond Gurry**

See also: Aboriginal health; Asthma; Child development; Children; Drug use; Infant mortality; Influenza epidemic; King Edward Memorial Hospital (KEMH); Mental health; Poliomyelitis epidemic; Pollution; Princess Margaret Hospital; Public health; Typhoid epidemics
Further reading: D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981); V. Whittington, *Gold and typhoid: two fevers: a social history of Western Australia, 1891–1900* (1988)

Child migration Much-needed labour for the early settlers of the Swan River colony was provided by child migrants. These included children sent out from England by the Society for the Encouragement of Juvenile Emigration

after 1834, and 334 convict children sent to Western Australia between 1842 and 1852 from the Parkhurst Penitentiary on the Isle of Wight. The immigration of unaccompanied children to WA ceased when adult convicts were introduced to the colony in 1850 and was not reintroduced until 1912. Between 1912 and 1968 (except during the First and Second World Wars), 2,906 unaccompanied children and youth migrants between eight and nineteen years of age emigrated from Britain and Malta to Australia, Canada and Rhodesia.

Early in the twentieth century there were seven non-Catholic agencies bringing children to Australia, including Barnado's, Fairbridge, the Big Brother Movement and the Millions Club. British authorities maintained thousands of abandoned, illegitimate or orphaned children in institutions, while some state governments were prepared to admit them as immigrants as long as they were housed and educated. WA took the majority of these children. The greatest number went to Fairbridge Farm, which received over 1,500 children between 1912 and 1960. Kingsley Fairbridge, who promoted child migration, established this farm settlement at Pinjarra just outside of Perth. The rhetoric of those supporting this immigration was always expressed in terms of child-saving: children would be saved from the stigmas of pauperism and illegitimacy and could create an independent life for themselves overseas. However, the program also gained much support from those who advocated the migration of white people to fill the empty lands, which might otherwise be coveted by Asians.

In 1922 the Catholic church in WA, which ran orphanages for local children, created the Knights of the Southern Cross to promote Catholic immigration, including children. Fairbridge Farm had already accepted some Catholic children and, in 1927, the Catholic church set up St Mary's Agricultural School at Tardun, 100 miles east of Geraldton, as an extension of Clontarf Orphanage. The intention was to train both Australian and immigrant children in farming and farm management and to settle them on the land. In 1929 St Vincent's, Castledare, was opened on the Canning River for children with intellectual disabilities, but this was subsequently transformed into an institution for junior boys linked to Clontarf. In 1936, Bindoon, a property of 17,000 acres, was donated by Mrs Catherine Musk, the widow of wealthy grazier John Musk, to the Christian Brothers and this also became a farm school. However, the building of these institutions for local children and the difficulties in staffing them meant that they had taken only 114 children from Britain by 1939. After the war, the immigration of children began again on a reduced basis, and the Catholic institutions in WA absorbed another 450 boys from Britain and 250 from Malta between 1947 and 1967.

Under the 1907 *State Children Act*, the managers of institutions for child migrants in Australia had power to control the children until they reached eighteen years of age. A legislative basis for the emigration of these children was put in place in Britain by the passage of the *Empire Settlement Act* of 1922. The British government dealt with state authorities in Australia until, in 1946, the federal government passed the *Immigration (Guardian of Children) Act*, which required that all voluntary societies obtain the permission of parents or a guardian before accepting a child as an immigrant. Under this Act, the federal minister delegated his powers to the states.

Most of the children sent to Australia were under twelve years of age and many had already been in orphanages for several years. The majority were not orphans but children who had been put in institutions by a single parent or by both parents, some of whom possibly saw the migration of one of their children as part of the means of survival for the rest of the family. In some cases they were sent to Australia without the knowledge of their parents, and most of

these children never saw their parents again. After 1948 an increasing number of the children at Fairbridge Farm came as a result of the direct request of parents. Because these institutions were subsidised at various levels by the British government and by the states and Commonwealth in Australia, as well as being granted sums for building purposes, the taking of children secured much-needed capital for institutions as well as providing a docile labour force. After 1923 the British government provided five shillings per week for each child under sixteen years of age, increased to ten shillings between 1949 and 1957. Child labour was used to maintain these institutions as well as for construction, clearing land and farming. A child no longer subsidised by the government was found work by the institution, usually as a domestic or as a farm labourer.

The decline of child migration occurred with the growth of the welfare state in both Britain and Australia and coincided with a period of full employment and increasing prosperity in Australia. Under the Post-War Reconstruction Scheme, the Australian government at first planned to introduce 50,000 children from Europe and Britain to boost the Australian population. However, there were now too few children available and the scheme was abandoned by 1968. By the late 1980s, in spite of the continuing praise heaped on the work of Kingsley Fairbridge, there was a growing perception that the policy of accepting child migrants was a social evil, with the result that, in 1987, a Child Migrant Trust was set up to try to unite migrants with their families. In the year 2000, largely as a result of lobbying by the International Association of Former Child Migrants, a Senate Inquiry was set up into the circumstances surrounding the immigration of unaccompanied children. The report of this inquiry, *Lost Innocents: Righting the Record: Report on Child Migration*, appeared in 2001. Many of the committee's thirty-three recommendations called for funding for counselling and reunion programs,

and better access to records to help former child migrants regain their identity. There was no recommendation for compensation, in spite of the work of the Child Migrant Trust, a victims' advocacy group with hundreds of clients in Perth. **Penelope Hetherington**

See also: Children; English immigrants; Fairbridge Farm; Migration; Orphanages; Parkhurst convicts

Further reading: P. Bean and J. Melville, *Lost children of the Empire* (1989); B. M. Coldrey, *The scheme: the Christian Brothers and childcare in Western Australia* (1993); Senate Community Affairs References Committee, *Lost Innocents: Righting the Record: Report on Child Migration* (2001); G. Sherington and C. Jeffery, *Fairbridge: empire and child migration* (1998); G. Wagner, *Children of the Empire* (1982)

Children made up a large part of the population from the time of white settlement in the Swan River colony in 1829, when all families worked together to make the land productive. Labour for the first settlers was also provided by child migrants sent out from England by the Society for the Encouragement of Juvenile Emigration after 1834 and by the Parkhurst convict boys, 334 of whom were sent to Western Australia between 1842 and 1852 from the penitentiary on the Isle of Wight. Some Aboriginal families worked for the settlers on farms, while Aboriginal children institutionalised in the Wesleyan Mission School between 1840 and 1855 worked as servants in Perth. They also worked at the Benedictine Monastery and the Annesfield Orphanage at Albany, where they were provided with Christian teachings and a simple education.

The leasing of vast areas of Aboriginal land to European pastoralists, beginning in the Pilbara in the 1860s and gradually extending to the Kimberley, created a new demand for labour, as did the beginning of the pearling

industry on the north-west coast. There were very few European families in these areas, and the Aboriginal population, including children, worked on these holdings in return for rations. Many boat owners in the pearling industry were implicated in various 'blackbirding' schemes, which saw Aboriginal adults and children kidnapped and brought to the coast for work in the industry. After the passage of the 1886 *Aborigines Protection Act*, a system of apprenticeship gave the settlers control of these young people until they attained twenty-one years of age. This Act also made clear that the education of Aboriginal children should be the responsibility of mission bodies.

Colonial government schools and private schools built by the Catholic and Anglican Churches from the 1850s became the main providers of education for children of European descent. The *Elementary Education Act* of 1871 made primary school attendance compulsory, although legal enforcement was difficult. In 1893, three years after the introduction of responsible government, a Department of Education was established with a responsible minister.

Although various gender-specific private secondary schools were established from the 1890s, no government-funded school providing secondary education to tertiary level was created by the Education Department before 1911, when Perth Modern School opened. Working-class children who wished to proceed beyond grade seven had to attend what was called the ex-seventh program, offered in some government-funded schools.

Secondary education grew very slowly between the two world wars when the majority of post-primary children attended central schools offering only three years of study at post-primary level. However, there were many children attending state technical schools and private business colleges, where they were trained for office work or as apprentices in one of many skilled trades. Rapid expansion of what

were called comprehensive high schools began during the 1950s due to increased prosperity, full employment, high levels of immigration and new federal–state funding arrangements with the establishment of the Commonwealth Office of Education and the Universities Commission. By 1960 there were twenty-seven high schools in WA, the state system providing 70 per cent of all secondary education services. The numbers in technical education grew in the same period as the number of girls attending secondary education expanded. The number of full-time students attending until Year 12 almost exactly doubled between 1979 and 2004.

After the passage of the 1905 *Aborigines Act*, the Aborigines Department was responsible for 'the custody, education and maintenance of Aboriginal children' and was effectively the guardian of these children. Many of those of mixed descent were removed by force, or by promise of an education, to various institutions. The Aborigines Department operated as an employment agency and the children were sent out to work at twelve years of age to European families. Half the small sum paid in wages to these children was supposed to be sent to the Aborigines Department as savings, but was seldom returned to its owner by the department. There were seventy multipurpose government settlements, missions and children's homes providing care for Aboriginal children and youth in WA from 1842 to the 1960s, most of them intent on Christian proselytising as well as providing maintenance for these children. More girls than boys were removed from their families because of the demand for domestic servants and because of the perceived need to control their sexuality and marriage arrangements.

The adoption of assimilation policies after the Second World War heralded an increase in the number of Aboriginal children removed from their parents for schooling or because they were believed to be in need of assistance. Missions and institutions were permitted to collect endowment money as a

lump sum for the children in their care, thus greatly increasing their resources.

In 1972 the Department of Native Welfare and the Department of Child Welfare, the latter originally dealing only with children of European origin, were amalgamated to become the Department of Community Welfare, and all measures that discriminated against Aboriginal children were repealed. However, the separation of Aboriginal children from their families continued at a far higher rate than for the rest of the community. In 1995 the name of the Department was again changed to the Department of Family and Children's Services and subsequently to the Department for Community Development. Large institutions were gradually closed down and the Department and non-government organisations now provided foster care, group homes, hostels and adoption services for both Aboriginal and European children.

By the 1990s, developments at the national and international level led to the increasing politicisation of the Aboriginal question and to a number of inquiries, including the Human Rights and Equal Opportunity Commission of Inquiry into the Separation of Aboriginal Children from their Families, 1995–97. The HREOC Report, *Bringing Them Home*, was launched at the National Reconciliation Convention in Melbourne in May 1997. **Penelope Hetherington**

See also: Aboriginal child labour; Aboriginal education; Adolescence; Child migration; Education, Catholic; Education, government secondary; Education, independent schools; Education, primary; Orphanages; Parkhurst convicts; Perth Modern School; Reformatories; Stolen generations
Further reading: A. Haebich, *Broken circles: fragmenting indigenous families 1800–2000* (2000); P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); P. Hetherington, *Settlers, servants & slaves: Aboriginal and European children in nineteenth-century Western Australia* (2002);

D. Mossenson, *State education in Western Australia, 1829–1960* (1972)

Children's literature Adventure stories highlighting aspects of pioneering life typified Western Australian writing for children well into the twentieth century. Mary and Elizabeth Durack broke new ground with *The Way of the Whirlwind* (1941), based on stories from their Kimberley childhood, and May Gibbs (*Snugglepot and Cuddlepie*) and Leslie Rees, whose *Karrawingi the Emu* won the inaugural Children's Book Council of Australia (CBCA) Award in 1946, gained national acclaim for picture books on Australian wildlife themes. The *WA School Magazine* introduced Paul Buddee and other writers in the 1950s, but the outstanding children's book of the postwar era was Randolph Stow's *Midnite: The Story of a Wild Colonial Boy* (1967), a rollicking spoof on WA history, adventure stories and Australian literary and folk traditions.

Increased state and federal funding in the 1980s boosted writing and publication for children. Jan Ormerod's *Sunshine* won the CBCA's inaugural Picture Book of the Year Award in 1982. UWA Press began publishing children's books in 1985, followed by Broome-based Magabala Books (1988) and Fremantle Arts Centre Press (FACP) in 1991. In 1990 Tim Winton's *Jesse* won the inaugural WA Premier's Award for Children's Books.

Indigenous culture and themes from WA history dominated publishing for children throughout the next decade. *Tjarany— Roughtail: The Dream of the Roughtail Lizard and other stories told by the Kukatja* won the CBCA Award for Information Books in 1993. Books by Jimmy Pike and Pat Lowe gave a realistic look at life in the Kimberley and Lorna Little's *The Mark of the Wagyl* (2004) introduced young readers to Nyoongar culture.

The Devil's Own (1990), *A Place of Safety* (1996) and *The Yankee Whaler* (2001) by Deborah Lisson; *Moondyne Joe* (2002) and

The Legend of Lasseter's Reef (2003) by Mark Greenwood and Frané Lessac; and Anthony Eaton's *Fireshadow* (2005) were all based on WA history. *In Flanders Fields* by Norman Jorgensen and Brian Harrison-Lever won the CBCA Picture Book of the Year Award in 2003; Jan Ormerod's *Lizzie Nonsense* was short-listed in 2005.

WA publishing for children and teenagers continues to flourish. Anthony Eaton, Dave Luckett and Shaun Tan have won awards for fantasy and speculative fiction; Elaine Forrestal, Glyn Parry and Julia Lawrinson for family and coming-of-age stories; and Guundie and Gerard Kuchling for picture books based on WA wildlife themes.

Books and documents relating to WA authors and illustrators are held at Fremantle Children's Literature Centre (FCLC, established 1993) and the State Library of WA. The Fellowship of Australian Writers (WA), FCLC and CBCA (WA Branch) provide workshops for writers, illustrators and readers; and promote appreciation of reading, writing and book illustration to parents, teachers, librarians and young people throughout WA. **Alison Gregg**

See also: Aboriginal writing; Book publishing; Children's theatre; Magabala Books; Writers' centres and organisations; Youth theatre
Further reading: B. Buick and M. Walker, 'Books for Children', in B. Bennett (ed.), *The Literature of Western Australia* (1979); *AustLit: The Resource for Australian Literature,* www.austlit.edu.au

Children's theatre for primary school ages became available in the late 1930s at Patch Theatre, with Ida Beeby's creative dance-drama classes. A junior group at the Repertory Club was led by Molly Campbell and, in the 1950s, Beryl and Kirk Hearder established Theatre Arts Players, which evolved into the education program for the National Theatre at the Playhouse.

Joan and Brian Pope established Festivals for Children in 1964, and CATS (Children's Activities Time Society) the following year. Multi-talented practitioners including Penny Why, Christine Mearing and Sean Grant created participatory performances for schools and during school holidays in many Western Australia towns. Twilight summer CATS plays were held at The University of Western Australia's Sunken Garden for nearly twenty years from 1972. Richard Davey wrote and directed many original works for CATS, including operas for children in collaboration with Jeff Carroll. Teachers colleges and theatre arts departments and local drama clubs presented plays for young audiences.

The puppetry element of children's theatre developed from Nutshell and other groups into Spare Parts Puppet Theatre in Fremantle. The 1970s added circus skills, especially Reg Bolton's Suitcase Circus. In the 1980s the Theatre in Education team of the WA Theatre Company, Acting Out, was directed by John Saunders. He was followed by Graham Gavin who developed the group into Barking Gecko at the Subiaco Theatre Centre. Their original work received international acclaim. Gavin later initiated the Awesome festival for children, now an annual event. Teachers' colleges and theatres' arts departments, as well as local drama clubs, present plays for young audiences, and Patch Theatre continues to offer dramatisations of traditional tales, touring from its base in Victoria Park. **Joan Pope**

See also: Circus; Drama festivals; Puppetry; Theatre and drama; Youth theatre

Chinese New Year occurs between late January and mid February, based on the lunar calendar. This festival is as important to Chinese as Christmas is to Christians. Tradition calls for the wearing of new clothes, especially red, but no black or white on the first day. Oranges and mandarins are symbolic of the moon and are given as gifts

when visiting, along with red packets of money for youngsters and single people. It is the most important family celebration, and all family members attend the New Year's Eve gatherings. For many Chinese Australians, this may entail travelling overseas to return to the ancestral home. Documented public Chinese New Year celebrations in Western Australia occurred on 2 February 1889 with a fireworks display on the Swan River foreshore. After Federation, celebrations were lower key as the effects of the Commonwealth's *Immigration Restriction Act* (1901) were felt. The Chung Wah Association (founded in 1909) marked Chinese New Year in 1911 with the official opening of the Chung Wah Hall in James Street. Since 1977 the Chinese community in WA has celebrated this event as a community celebration for all Australians, generally with a two-week family-oriented program. Since the early 1980s the Chinese New Year Ball has been an annual social highlight, with the governor and various state leaders and dignitaries attending. Other events have included free Chinese cultural concerts, open house at the Chung Wah Hall, exhibitions, and various sporting competitions. Celebrations end on the fifteenth day with a family dinner at a large Chinese restaurant.

The 1990 celebrations coincided with the eightieth anniversary of the Chung Wah Association. A variety of events such as the first state dragon boat championship, a derby day for Year of the Horse, a thoroughbred yearling raffle, China Trade seminar and the Moon Chow Festival at Fremantle were held. Much of the wider community has now embraced Chinese New Year as an occasion for all Australians. Lion dances are commonplace in many major commercial businesses, restaurants and even local homes to bring good luck for the start of a prosperous year.
Kaylene Poon

See also: Asian immigrants; Folklore; Migrant ethnic associations; Multiculturalism

Further reading: Chung Wah Association, *75th Anniversary Chung Wah Association, 1910–1985: commemorative book* (1986); Chung Wah Association, *Chung Wah News*

Choirs were a significant feature of most Western Australian churches of any size from colonial times until at least the latter half of the twentieth century. The growing popularity of male voice choirs in the eastern colonies was mirrored in the formation in 1898 of the Coolgardie Liedertafel, one of the earliest community choirs in the goldfields. Both there and in Perth, conductors and members of such choirs usually filled similar roles in local churches.

Among the larger choirs formed in the interwar period were the Commercial Travellers' Association Choir (begun by O. G. Campbell Egan in 1925, and now known as the Perth Male Voice Choir), the University Choral Society (1931, first conductor A. J. Leckie), and the Perth Philharmonic Society (1934, E. S. Craft). One outcome of the popularity of community singing between the wars was the outdoor Carols by Candlelight, held annually since 1946 in the Supreme Court Gardens, with similar events in suburbs and country towns.

Competition between choirs was encouraged in eisteddfods and music festivals such as those organised by the WA Music Teachers' Association. In 1951 the Country Women's Association began a choir festival, which soon attracted a number of entries from various country areas.

Community choirs cater for a wide range of interests and the varying abilities of their members. The Perth Oratorio Choir (founded in 1976) and the Albany Choral Society (which has had an intermittent existence from as far back as 1891) are among those that preserve the tradition of performing Handel's *Messiah* at Christmastime.

Unaccompanied close harmony singing became extremely popular in the 1980s. The

Sweet Adelines international organisation for female barbershop singers has member choirs in Perth, Geraldton and Busselton, and since its formation in 1984 the Perth Harmony Chorus has been a frequent winner of the national championships. The WA-based Men in Harmony chorus was the first large male barbershop choir established in Australia (in 1985).

Some choirs deliberately target inexperienced adult singers, emphasising the social enjoyment gained by singing with others— examples being the Sing From The Heart Community Choirs (since 1997), which meet in various Perth suburbs. Voice Moves WA was established in 1998 to provide a network for community choirs throughout the state. Many choirs are associated with ethnic societies or specific interest groups, and have a varied repertoire ranging from traditional to modern, gospel and jazz. **Jean Farrant and John A. Meyer**

See also: Country Women's Association; Music; Music, schools; Music, tertiary education

Further reading: F. G. Barr, *'…the Music makers': the University of Western Australia Choral Society's first sixty years, 1931–1991* (1991); *Voice Moves: the newsletter of Voice Moves WA* (1998–)

Christadelphians Dr John Thomas founded the worldwide Christadelphian lay movement in 1848, publishing a foundation book *Elpis Israel* in which he expounded Bible truths of the Gospel of Salvation. Individual Christadelphians migrated to Western Australia in the second half of the nineteenth century, and there have always been converts from among the general population. In WA believers first met as a group, or Ecclesia, on 26 January 1896. There are now eight Perth Ecclesias, with regular meetings also held in country centres. Membership is gained by belief of Gospel truths, followed by baptism

(by immersion). Organisation is always by mutual consent as the movement has no priests or clergy. The one constant is that all follow the Biblical principles set out by Dr Thomas in *Elpis Israel* and other writings. Christadelphian tenets include belief in Bible infallibility, and a future millennial Kingdom on earth, reigned over by Jesus Christ assisted by his approved, immortalised followers. Currently there are approximately 500 baptised members in WA. Worship assemblies and public lectures are held every Sunday. **Anthony M. Haustorfer**

See also: Spirituality and religion

Christian Science was founded in 1879 in the USA and traces its arrival in Western Australia to 1904. The denomination is best known for its controversial belief that physical sickness arises from sin, and, correspondingly, that prayer can cure bodily ailments. Christian Scientists are committed to education as a religious duty, and maintain 'reading rooms' for this purpose.

The first public Christian Science service was held on 9 February 1908 in a room in Hay St, Perth. Interest in Christian Science was stimulated by a public lecture at the Perth Literary Institute in 1914. The lecture was introduced by the Mayor of Perth and more than 300 people attended. Perth's Christian Science Society was recognised by the church's headquarters in Boston, Massachusetts, in 1920, and renamed the First Church of Christ, Scientist, Perth.

The heyday of Christian Science in WA was in the interwar years. A church site on the corner of St Georges Terrace and Elder Street (then George Street) was purchased in 1926. Initially the existing buildings, one of which had been the hospital of the old Pensioners' Barracks, were used for a Sunday School and administrative offices until purpose-built buildings were erected in 1933. The handsome Art Deco church, designed by

architects Ochiltree and Hargrave, was built in 1939. Worship continues in this building to this day, as well as in smaller churches in Fremantle and Midland. **Paul Laffey**

See also: Spirituality and religion

Church of Jesus Christ of the Latter Day Saints The first elders of the Church of Jesus Christ of the Latter Day Saints (also known as the Mormon Church) arrived in Fremantle on 5 February 1907. They followed in the footsteps of Andrew Jenson, the assistant church historian who had travelled to Western Australia in 1896 on a fact-finding mission. The Church had been founded by Joseph Smith in the United States in 1830, with headquarters in Salt Lake City, Utah. The first Church meeting in WA was a 'street meeting' held on 16 February 1907 in Wellington Street, opposite Boans Department Store. Thereafter, weekly street meetings were held on the corner of Wellington and Murray streets. The first chapel at 313 Perth Street (later called Churchill Avenue), Subiaco, completed 15 March 1925, was built using labour and funds raised by congregation members on land donated by a convert to the Church.

Until the 1950s membership of the Mormon Church was relatively static, with many converts migrating to the USA and Canada. At the 2006 census there were 5,490 members in WA. The church has thirteen chapels (places for regular Sunday worship and recreational activity) throughout the metropolitan area and country regions. There are also three family genealogy centres, at Attadale, Dianella and Warwick, where access is available to genealogical records from all over the world that are gathered by the Mormons. The Perth Australia Temple in Yokine was completed in 2001. Young volunteer Mormon missionaries from around the world are frequently seen in pairs on Perth's suburban streets and in towns across the state. **Keryn Clark**

See also: Genealogical Society; Spirituality and religion

Further reading: D. W. Cummings, *Saints of the Golden West, a chronological history of the Church of Jesus Christ of Latter-day Saints in Western Australia: the first one hundred years 1896–1996* (1997)

Church–state relations In 1842 Anglican priest John Wollaston criticised the colonial government's lack of official support for the Church of England. Between 1780 and 1830 a 'constructive conservatism' in imperial development centred on the notion of Britain as a Christian empire, in which Anglicanism was supported among British colonial populations as a force for greater local conformity and docility. While the British settlement of Western Australia came at the very end of this period there were indications of this official alliance in the new colony. An Anglican clergyman, John Wittenoom, was appointed in 1829 to the Civil Establishment as the only official chaplain, and with a government salary.

In upholding the relationship between the Church of England and the state, the British government and Anglicans like Wollaston were representative of a longstanding political theology that went back to the sixteenth-century Anglican theologian Richard Hooker. According to this view, church and state were aspects of a unitary society in which each had a duty to uphold the other for the overall health of society. However, this revived Anglican establishmentarianism of the imperial government was undermined between 1828 and 1832 when legal recognition enabled Protestant Dissenters and Catholics to vote and enter parliament in Britain. Consequently, the exclusive support of the British state for the Church of England was quickly eroded after the *Reform Act* of 1832 brought liberal Whig ministries to a virtual monopoly of power until 1860. Therefore, in WA the colonial government,

acting on imperial instructions, began official support for Protestant Dissenters and Roman Catholics alongside the Church of England. In 1840 the Legislative Council under Governor John Hutt passed an Act providing financial assistance to all Christian churches. But, in practice, the abiding preference for the overwhelmingly Anglican establishment in the colony meant the maintenance of an unofficial preference between the Church of England and the state in WA, which was relatively undisturbed during the colonial period compared with the eastern colonies, owing to the relatively tiny size of the non-Anglican denominations.

Notwithstanding this unofficial Anglican bias in the colonial state, after 1840 all the churches existed in a close relationship with the government. State aid to the churches proper, as distinct from church education, was less contentious. The majority of the colonial establishment, which was small and united, favoured supporting the churches. In addition, the poverty of the colony meant the churches were too poor to provide for all their own needs. In the 1850s and 1860s, state aid came principally in the form of salaries for clergy who acted as convict chaplains after the establishment of a penal settlement in the colony in 1849.

Government salaries, however, meant government interference in the churches' affairs. As the disadvantages increasingly seemed to outweigh the advantages, the Anglican bishop Mathew Hale agreed to accept parity with the other churches in government funding under the 1871 *Education Act*. By the 1860s some churches were initiating institutional structures that made them independent of the state. So, by the 1870s the churches in WA were largely independent, voluntary bodies, although they continued to receive public monies. State aid was fixed at £3,500 a year and distributed among the Anglicans, Roman Catholics, Methodists, and Presbyterians. The Congregationalists, being voluntarists in principle, continued to refuse state aid.

However, the government-funded dual system of education, which began in 1871, aroused anti-Catholic opposition to the apparently preferential treatment of Roman Catholic schools.

The discovery of gold in the 1890s resulted in increased immigration, largely from the eastern colonies where state aid had been severed in the 1870s. This immigration not only brought political liberals into the colony, but also evangelical Christians of voluntarist traditions. The advent of responsible government in WA gave these groups the opportunity to increase political moves to abolish state aid. This eventually succeeded, along with the abolition of education grants to the churches, in 1895. There was little public opposition from the churches, who were happy to accept the £35,000 lump-sum compensation offered as a welcome increase to their capital. It was not until 1954, with the formation of the Catholic lobby group, the Parents and Friends Association, when state aid to denominational education recommenced to Catholic schools, that the issue became controversial once more. By 1962 the Association was statewide and became part of a national federal body, which achieved increasing state funding for Catholic schools from 1964.

During the Great Depression of the 1930s, church leaders and clergy had demonstrated a willingness to be cautiously critical of government economic policies. In recent decades, however, the churches have exhibited a willingness to challenge government policy by participating in public protests over national issues. One of the earliest of such public differences between church and state was the Vietnam War, when the Anglican Archbishop, George Appleton, a convinced pacifist, took part in anti-war peace vigils during his episcopate in Perth in 1963–69. In 1981, members of the Uniting Church, including four ministers, were among prominent protesters over Aboriginal land rights, opposing government support for the lease of land sacred to the local Indigenous people

at Noonkanbah to an oil company. **Rowan Strong**

See also: Anglican church; Catholic church; Education, independent schools; Native title; Noonkanbah dispute; Spirituality and religion; Uniting church; Vietnam War

Further reading: I. Breward, *A history of the Australian Churches* (1993); J. Tonkin (ed.), *Religion and society in Western Australia*: *Studies in WA History*, 9 (1987)

Churches Every place of worship has its distinctive character and heritage values, based on association with its local community. Western Australia has many churches comparable to those in other former colonies, and some that are unusual or unique for various reasons of design and history.

Many small country churches are little more than rectangular halls whose identity is signalled on the exterior only by pointed windows. These were usually erected by local people, sometimes using the services of an experienced builder, but rarely a professional architect. Inexpensive, functional and vaguely traditional, they show little regard for architectural trends in the cities or in Europe.

Major churches in larger centres usually reflect changing English architectural fashions. When Perth outgrew its first Anglican cathedral, St George's, designed by amateur architect Joseph Brown (1845) in a simplified classical baroque style reminiscent of Wren's London churches, it was not extended, but replaced with Sydney architect Edmund Blacket's neo-gothic building (1888).

Some of the more odd and interesting WA churches resulted from use of local materials or response to the hot climate. The interior of the mission church at Beagle Bay (1915), designed by Pallotine Father Thomas Bachmair, was richly decorated with inlaid pearl-shell by local Aborigines. St Werburgh's at Mount Barker (1874) features verandahs like a bush homestead. The sidewall panels

of Broome Uniting Church (1925) can be slid aside to enhance ventilation.

Local architects active in ecclesiastical work included Sir Talbot Hobbs, who began with the simple little St Alban's at Highgate (1889, extended 1898), and Michael and James Cavanagh, who dominated Roman Catholic building from 1895 to the 1930s. WA has proportionally fewer classical baroque-style churches than other states, although the Benedictine community at New Norcia built several reflecting their Spanish origins.

London architect turned Roman Catholic priest, John Hawes, designed the stylistically mixed Spanish and Romanesque Geraldton Cathedral (1918–38), and designed, helped build, and sculpturally decorated a swathe of churches in the Mid West, each unique in style.

The fashion for Art Deco is seen in Perth's Christian Science church (1938–39, by Ochiltree and Hargrave), St Mary the Virgin in South Perth (1931–57, by Hobbs, Winning and Leighton) and the unusual Our Lady of Monsarrat at Southern Cross (1936). St Columba's South Perth (1937, by E. LeB. Henderson) is an essay in the Californian derived 'Spanish Mission' mode, and international modernism is seen in the Anglican Cathedral of the Holy Cross at Geraldton (1964, by Edwin Whittaker).

The chapels at Guildford Grammar School (1912–14) by Sir Walter Tapper and at Fairbridge (child migrants farm school, 1928–31) by Sir Herbert Baker, the only works in Australia by these distinguished English architects, are among their career-best designs. Both were funded by English patrons, as was All Saints' at Collie (1915–28), built in an unusual Federation Romanesque style with an interior mural by famed theatrical scene painter Philip Goatcher. Some churches that look unremarkable from outside incorporate significant artworks, such as the east window (1901) by English Pre-Raphaelite Henry Holliday in St John's former cathedral in Kalgoorlie. **David Dolan**

See also: Anglican church; Architecture; Art Deco; Catholic church; Christian Science; Congregational church; Education, Independent schools; Fairbridge Farm; Greek Orthodox church; Methodist church; Missions; Oriental Orthodox churches; Presbyterian church; Spirituality and religion; Uniting church

Further reading: J. J. Taylor, *Between devotion and design: the architecture of John Cyril Hawes 1876–1956* (2000); R. Oldham, *George Temple-Poole: colonial architect of the golden years, 1885–1897* (1980); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979)

Churches of Christ The Churches of Christ, whose origins are generally traced to nineteenth-century USA, are a loose collective of semi-affiliated groups whose main thrust—'restoration'—concerns the belief that the core of Christianity can be found in a reading of the New Testament which ignores the accretions of the intervening history: that there is a recoverable, 'essential' Christianity. Its followers hold that the Bible is a sufficient text from which to develop and devolve an adequate theology, and, correspondingly, there is little in the way of a written Churches of Christ creed. Their weekly worship centres on the Lord's Supper and their practice of believers' baptism mirrors that of the Baptists.

Membership of the Churches of Christ in Western Australia was first recorded in the 1891 census, when there were 98 members in WA, but in 1901, after the great gold rush population surge, the number had increased to 1,045, rising further to 2,808 in 1911—one per cent of the population. A Church of Christ was established in Fremantle in 1892 and early churches were built in Fremantle (1898), Lake Street, Perth (1897) and Subiaco (1898).

At the 1954 census there were 7,801 members of the Churches of Christ in WA, 1.2 per cent of the population. In recent years, however, there has been a marked diminution in the number of 'centres of witness' (from thirteen in 1985 to ten in 1995) in WA, and at the 2006 census the number of members (9,874) had fallen to 0.5 per cent of the population. However, with the increasing blurring of denominational boundaries and the growth of evangelical fundamentalism, membership is increasing. **Paul Laffey and Jenny Gregory**

See also: Spirituality and religion

Further reading: G. A. Ewers, *A century of worship and witness 1890–1990: Churches of Christ in Western Australia* (1990); R. Humphreys and R. Ward, *Religious bodies in Australia* (1995); D. Roper, *Voices crying in the wilderness* (1979)

Cinderella state Western Australia was often referred to in the 1890s as Australia's 'Cinderella colony', a phrase used in print at least as early as 1879 in J. B. O'Reilly's *Moondyne Joe*; after federation this became 'Cinderella state'. The Cinderella story is one of transition from rags to riches, and in the case of WA the gold discoveries of the 1890s were the 'Prince Charming' which made the transition possible. Since then there have been other periods, for example the 1960s, when the state's economic development has again surged ahead after lagging behind the other states, bringing the phrase back into vogue. The fairytale Cinderella is always a person of beauty and virtue, even when these qualities are not being recognised, so the phrase is a consoling one in bad times as well as a boast in good, which perhaps accounts for its longevity and the incorporation of Cinderella into the title of books about Western Australian culture as late as 1991 and 2003. The implication has at times also been that the eastern states were 'ugly sisters', exploiting the West for their own benefit. But WA has no monopoly on the phrase: South Australia, Tasmania and

Queensland have all been described as Cinderella states. **Brian de Garis**

See also: Isolation; Secession

Cinema history in Western Australia is almost within living memory. Although cinematography arrived here soon after its invention in Europe in 1895, and was demonstrated as a novelty in makeshift locations, it was some years before purpose-built venues for movie screening were constructed. The first 'moving pictures' in Perth were shown at Cremorne Gardens, Hay Street (1896) then with varying frequency at Queen's Hall, William Street, and Theatre Royal, Hay Street, both venues being later remodelled for the purpose. Existing vaudeville and live theatres were quickly utilised and later converted for sound by cinema entrepreneurs operating in Perth and suburbs, Fremantle, Bunbury and Kalgoorlie and by travelling 'picture-show men' in rural areas.

Harold Boas designed Kings Open-Air Theatre Gardens, The Esplanade, Perth (1905), presaging the outdoor phenomenon that became so popular in temperate WA— more than any other state in Australia or indeed the rest of the world. During the heyday of the movies, interwar country and suburban cinemas were mostly accompanied by adjoining 'picture gardens', either purpose-built or constructed on the site of earlier theatres or music halls. This resulted in innovative methods of using the same projectors for both venues. The most sophisticated development of this practice, possibly a world first, was the Windsor Theatre, Nedlands and Como Theatre (Cygnet), South Perth, both designed by the state's leading cinema architect, W. T. Leighton. Here, innovative functional planning with roll-on/roll-off projectors integrated successfully with modern asymmetrical styling, achieving well-balanced buildings of unique compositional forms.

From an early stage the cinema was closely associated with new ideas and modern attitudes. Following the Great Depression, America's cinematic thrust coincided with the state's significant growth and development reflecting optimism for the future. By the 1930s the movie-house image emulated clean ocean-liner streamlined shapes suggesting luxury and freedom. The 'picture theatres' became prominent symbols of modernity and important landmarks in the state's progress. Local businesses vied for involvement with their development. In pride of place in every major centre was a futuristic-looking showpiece for the 'Hollywood Dream Factory', its vertical neon sign beckoning patrons to indulge in an hour or two of fantasy.

Perth and its suburbs claim more 1930s cinemas still standing and operational than any other Australian capital. Cinema buildings such as the Leighton-designed Piccadilly Theatre, Perth, and Astor Theatre, Mount Lawley, are more evocative of the Art Deco style as realised in WA than any other architectural genre. They are monuments to a handful of architects who rejected outdated styles and helped to create a regional type of cinema architecture. These included S. Rosenthal, who designed the state's first Art Deco cinema, the 'Radio', in Geraldton, H. H. Bonner, and later W. G. Bennett, co-designer with Leighton of the popular Regal Theatre, Subiaco. The 1930s cinemas had a profound effect on the milieu of suburban Perth, when a regular evening at 'the pictures' was a significant social event. Efforts by the Art Deco Society of WA have led to the heritage listing of many of these cinemas.

Almost every major country centre in WA featured a hall equipped to show films, and several, such as the Beverley Town Hall, by Bennett, were purpose-designed as a cinema complete with outdoor picture garden.

By the 1950s air-conditioning installation and widespread automobile ownership saw picture gardens decline, largely supplanted by 'drive-in' movies. The advent of television

seemed to promise the death knell of the cinema itself. Many cinema buildings were threatened with demolition, doomed to neglect or abused as supermarkets or bingo parlours. For a while they languished in disrepair but gradually the novelty of television wore thin and cinema staged a comeback. To facilitate this, existing cinemas were 'twinned' and multi-cinema complexes constructed to maximise utilisation and minimise staffing. A revival in popularity initiated a rebirth of interest in open-air picture gardens, led by the refurbishment of the Mosman Park Memorial Hall (Camelot), the continuation of the Somerville Auditorium (UWA), and the continuation of the oldest-surviving venue, the Sun Pictures, established in Broome in the Kimberley in 1916. **Vyonne Geneve**

See also: Art Deco; Film
Further reading: V. Geneve, 'Versions of modernism in Western Australian cinema design 1930–1940', MA Thesis, University of Western Australia (1991); R. Thorne, *Picture palace architecture in Australia* (1976)

Circus Historically, most circuses seen in Western Australia have come from the east coast, Western Australia's small population making a locally-based circus uneconomical. The first recorded circus performance in WA was an 'international circus' presented by the acrobat Frank Stebbing and advertised in the *Perth Enquirer* on 25 April 1869 as the first equestrian entertainment in WA. It took place at the Fremantle Cricket Ground. As in the eastern colonies, the gold rushes were a magnet for circuses, which sometimes received payment in gold dust and nuggets. In 1893 Wirth's Three Ring Circus arrived by steamer from Adelaide, performed with great success for several months and left Fremantle in December for South Africa in what became an eventful seven-year world tour. In 1897 Fitzgerald's Circus and menagerie, combined with the New London Company, arrived at

Albany from Adelaide and toured by rail on its own train to the Eastern Goldfields, Perth and Fremantle, returning to Albany to winter as Fitzgerald's Zoo. Other familiar Australian circus names to have toured WA include St Leons, Bullen Bros, Sole Bros, Eroni Bros, Wirths, Ashtons, Perrys, Silvers, Robinsons, Royale, Sonelli, Lennons, Burtons, Stardust and Webers.

Circus was first seen in Broome in 1900, when Wirth Bros Circus gave a performance on its way back from India. The Hyland family came to WA from the eastern states in 1910 and was the state's resident circus until 1923. Katharine Susannah Prichard travelled with Wirth's Circus in WA, and reflected on her experiences in the 1930 novel *Haxby's Circus*. In 1934 the Aboriginal circus proprietor Bob West made the last crossing of the Nullarbor with horses and wagons. During the 1930s, Bullen Bros Circus was based in WA. Today, with increasing government restriction, fewer circuses can afford to come to WA, but the Lennon family circuses Burtons and Stardust, and Circus Joseph Ashton, occasionally make the trip across the Nullarbor or over the top.

Perth and some regional centres are on the itinerary for international tours like Edgley's Moscow State Circus, various Chinese combinations and the Canadian Cirque du Soleil.

Sole Bros Circus elephants parading in the streets of Port Hedland, 1 September 1969. Courtesy West Australian *(JJ5687)*

Less well-known are the small groups and individuals in WA who have made a significant contribution to a lively contemporary circus culture. The original 'Wimmin's Circus', including Western Australians Rose Wise and Sarah McNamara, started in Melbourne in the 1980s. Other Western Australians, Anni Davey, Mel Fyffe, Matt Yates, Matt Wilson and Joel Salom, all became pivotal members of Circus Oz, Australia's leading subsidised circus company founded in Melbourne in 1977. Festival Circus, Bizircus and Flip 'n' Flop are among the small groups that have travelled throughout the state since the 1980s, combining circus-style performances with training for children. Much of the contemporary circus activity in WA from the 1980s, including circus skills education, was inspired and guided by Reg Bolton (1945–2006). Originally from England, Bolton brought his Suitcase Circus to the state from Scotland in 1985. Bolton's seminal work gradually permeated around Australia. Matt Yates' Lunar Circus, established in 1997 in Margaret River, is known for its bold contemporary energy and its wide vision, with links to Belfast Community Circus and a tour of South-East Asia.

Denmark, Narrogin, Christmas Island, Albany and Kununurra are among the regional centres to have hosted significant circus residences, providing training, youth focus and entertainment for local communities since 1988.

Festivals of circus include three Denmark clown conventions and a juggling festival in the 1980s and 1990s, a 1987 New Circus Festival in Mount Lawley and the National Circus Festival on Rottnest Island in 2001. Reg Bolton, through the YMCA, ran a circus school in Melville (1996–97), and Fremantle's Cirque Bizirque is its successor. **Reginald Bolton and Mark St Leon**

See also: Children's theatre; Theatre and drama; Youth theatre
Further reading: R. Bolton, *New circus* (1987); J. Cannon, with M. St Leon, *Take a drum and beat it* (1997); J. Fogarty, *Jim Fogarty presents the wonder of Wirths'* (2000); M. St Leon, *The circus in Australia: spangles & sawdust* (1983); M. St Leon and M. King, *The Silver Road* (1990)

Citizens Advice Bureau The Citizens Advice Bureau (CAB) of Western Australia is a not-for-profit information and referral agency. It offers skilled advice on welfare, finance, tax and mediation to the community, providing information on family matters, personal issues, property issues, debts, youth issues, legal matters, resolving disputes, consumer problems, employment issues, accommodation, health and wellbeing, leisure and recreation.

The initial need for such an organisation was preceded by the formation of a Council of Social Service on 16 March 1956, which aimed to promote cooperation and to avoid duplication of effort among existing welfare bodies. Shortly after the Council's formation there was a growing move in the community to address the need for either a Citizens Advice Bureau or a Family Welfare Bureau. After subsequent research to ascertain which agency would be of greater service, the Council decided in May 1959 to work towards establishing a Citizens Advice Bureau, and Mrs G. W. Ruston was offered the position of the first Director of the CAB of Western Australia. The CAB was established in WA on 16 March 1963, developing in the following years to become an important community service, and was eventually incorporated on 23 October 1968. It has a network of ten branches throughout the metropolitan area and in the South-West of the state. **Jane Leong**

See also: Health Consumers Council; Welfare

Citizenship Since the *Australian Citizenship Act* (1948), as amended, legal citizenship may be acquired by birth, descent, adoption,

or naturalisation. Citizenship, however, has politico-legal, economic, social and educational dimensions. It is also characterised by political, civil, social and cultural rights, and inclusion within the moral community. Political rights are a necessary condition of democratic citizenship. However, substantive equality, and the individual's feelings of belonging fully and equally to the community are essential to the lived experience of democratic citizenship.

Fundamental to modern political citizenship is representation in the political decision-making process of the polity. Hence, representative government and extension of the suffrage are essential to the development of democratic citizenship. Representative government did not have its beginnings in Western Australia until 1870 when the Legislative Council, first formed as a nominated body in 1832, began to elect two-thirds of its membership on a restricted male franchise.

Self-government for the colony was achieved in 1890 with a fully elected Legislative Assembly, and by 1893 a fully elected Legislative Council. Male adult franchise for the Legislative Assembly was introduced in 1893, with plural voting abolished in 1904. However, it was not until 1964 that franchise restrictions were overturned for the Legislative Council. The political citizenship of Aboriginal Western Australians was recognised in 1962 when the right of Aboriginal people to vote was acknowledged. In 1984 compulsory enrolment and voting completed Aboriginal people's full inclusion into political citizenship.

In 1899 the right of women to vote was recognised when non-Aboriginal women in WA were enfranchised. However, the constitutional right of women to be members of parliament was not established until 1920. Just one year later Edith Cowan became the first woman to be elected to an Australian parliament when she won a Legislative Assembly seat. Carmen Lawrence, in 1990, gained the distinction of being the first woman Premier in Australia, while Carol Martin, in 2001, was the first Aboriginal woman to be elected to the WA parliament, or to any Australian parliament. Ernie Bridge, in 1980, had earlier become the first Aboriginal person elected to the WA Legislative Assembly.

However, political rights and formal inclusion in the polity do not ensure equal citizenship. Measures to repeal discriminatory laws and outlaw exclusionary practices are required to construct a Western Australian citizenship characterised by both formal and substantive inclusion. Discriminatory laws to be repealed have included the removal of the 'Marriage Bar' in public sector employment in 1966. Equal pay for equal work became law in 1972 but the addition of superannuation entitlements was a further two decades in the future. Significantly, in 1984, the Western Australian *Equal Opportunity Act* was passed 'to eliminate discrimination on the grounds of sex, marital status or pregnancy, family responsibility or family status, race, religious or political conviction, impairment, age or gender history…' An amendment to cover disability was passed in 1988 and in 2002 discrimination on the basis of 'sexual orientation' was added. This was followed in 2004 by substantive equality and anti-racism policies organised around the theme, 'if you treat me equally, you may have to be prepared to treat me differently'.

Citizenship education is crucial to a healthy democracy, while knowledge and understanding of civics and citizenship are essential conditions of becoming an active citizen. In 1994 a major national report on civics and citizenship education, entitled *Whereas the People*, contended that 'citizenship should be the mortar that holds together the bricks of our contemporary, multicultural society' and recommended non-partisan programs of public education and information. The Constitutional Centre of WA was established in 1997, as a focal point for civics education.

Other citizenship initiatives in WA have included a resurgent interest in community consultation, a process that sees citizens as partners in policy-making and decision-making.

Given the wide scope of the notion of citizenship it is not surprising that citizenship is contested, in WA as elsewhere. However, robust debate over the terms of citizenship, that is, the nature of inclusion in both the polity and society, is characteristic of a healthy and resilient democracy. **Janice Dudley**

See also: Aboriginal legislation; Citizenship, Aboriginal; Constitution; Constitutional Centre; Electoral system; Female suffrage; Politics and government

Further reading: D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991); D. Black and H. Phillips, *Making a difference: women in the Western Australian Parliament 1921–1999* (2000); H. Phillips, D. Black, B. Bott and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998)

Citizenship, Aboriginal From 1829 Aboriginal people in Western Australia were subject to race-based legislation such as the *Aborigines Act 1905* and the *Native Administration Act 1936* which imposed severe restrictions on all aspects of Aboriginal people's lives, including denying them citizenship rights. To escape the harsh provisions of the Acts, Aboriginal people had to apply for 'certificates of exemption', which were difficult to obtain and easily revoked. When the Second World War broke out, despite Defence Force objections, Aboriginal people enlisted in the services. For Aboriginal soldiers, supported by their non-Aboriginal mates, the right to drink became a key platform in the battle for equality and citizenship rights. From 1944 Aboriginal people in WA, particularly those who had served in the armed forces, could apply to become citizens under the *Native (Citizenship Rights) Act 1944*; Aboriginal people commonly referred to such citizenship papers as 'dog licences'. To gain citizenship an Aboriginal person had to prove to a magistrate that he/she had adopted a 'civilised life' by dissolving tribal and native associations for two previous years, could speak and understand English, and had to be deemed 'fit and proper' by passing a medical examination. Conferral of citizenship gave 'honorary white' status and the successful applicant was no longer deemed to be an 'aborigine'. Citizenship and Aboriginality appeared to be mutually exclusive categories, though citizenship could be revoked and the person then reverted to their former status of 'aborigine'. During 1944–64 there were 2,600 applications for citizenship, of which 1,964 were granted (and not revoked); this was less than 10 per cent of the state's known Aboriginal population at the time. From the mid 1950s some of the harsher provisions of the Aboriginal legislation were removed, but the *Native (Citizenship Rights) Act* was not fully repealed until 1971.

Aboriginal people fared little better at a national level. In 1901 WA became a state within the Commonwealth of Australia. Under the Australian Constitution, section 51[xxvi], the states retained sole control of Aboriginal affairs, and under section 127, '[i]n reckoning the numbers of people of the Commonwealth, or of a State or part of the Commonwealth, aboriginal natives shall not be counted'. This effectively excluded Aboriginal people from the new nation. Aboriginal mothers were barred payment of the Commonwealth's Maternity Allowance or the 'baby bonus' when it was introduced in 1912; Aboriginal people were also denied Commonwealth benefits such as invalid and old age pensions. While the ban was generally lifted in 1947, some exclusionary provisions remained until 1966. The *Commonwealth Electoral Act 1902* removed the right to vote in federal elections

from those Aboriginal peoples not enrolled to vote in state elections, disenfranchising Aboriginal people in WA, where they were barred from voting. In 1962, all Aboriginal people became eligible to enrol and vote at federal elections and referenda, and in the same year Aboriginal people gained voting rights in WA, though few Aboriginal people actually managed to exercise this right. Many Aboriginal people were not made aware that they were now able to vote; further, when some Aboriginal people tried to vote they were turned away, simply because they were Aboriginal. Voting did not become compulsory for Aboriginal people until 1984. The 1967 Federal Referendum amended sections 51 and 127 of the Australian Constitution, enabling the Commonwealth to legislate for Aboriginal people in all states and making it mandatory for Aboriginal people to be counted in the census. The 1967 Referendum was seen as the turning point in full citizenship rights for Aboriginal people.

In 1980 Ernie Bridge (Australian Labor Party), as the Member for the Kimberley, became the first Aboriginal person elected to the WA parliament. In 2001 Carol Martin (Australian Labor Party), again representing the Kimberley, became the first Aboriginal woman elected to the WA parliament, and to any parliament in Australia. In March 2006 Ben Wyatt (Australian Labor Party) was elected to the Legislative Assembly in the by-election held for the metropolitan seat of Victoria Park, vacated as a result of the resignation of the premier, Dr Geoff Gallop. **Jill Milroy**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal legislation; Aboriginal servicemen and servicewomen; Citizenship; Welfare
Further reading: J. Chesterman, *Citizens without rights: Aborigines and Australian citizenship,* (1997); C. D. Rowley, *The destruction of Aboriginal society: Aboriginal policy and practice*, 1 (1972)

City to Surf fun run The twelve-kilometre City to Surf fun run is the largest community sporting event in Western Australia. It is also the largest fundraiser for Activ Foundation. The race, held on the last weekend in August, starts in St Georges Terrace and finishes at City Beach oval. The inaugural event of 500 competitors was held in 1975; in 2005 the 25,101 competitors set a record for participation per capita which outdid Sydney's City to Surf two weeks earlier. Participants that year included international runners such as Tanzanian Patrick Nyangelo, Australian Olympians such as Steve Moneghetti (Vic.), Louise Sauvage (WA), Paul Nunnari (NSW), Susan Hobson (ACT) and ten-times winner and local favourite Ray Boyd. Corporate teams, schools, age-group competitors and fancy-dress competitors also help make up the numbers. Sponsorship makes the event possible. **Keryn Clark**

See also: Athletics; Sport, disabled people

Class Proponents of colonisation of Western Australia wanted to reproduce a version of the class structure of the English countryside: a landed gentry with a quiescent and respectful labour force. The conditions of settlement required that land be granted at such a cost that only those with assets could acquire it, and one of these assets would be labour. Colonists with assets could acquire more land in proportion to the number of labourers and labourers' families they brought out with them. The high cost of passages put a barrier in the way of workers with ambitions. Workers were tied to their employers by indentures that set out conditions of service, and these were strictly enforced by the early administrations, thus ensuring that the state was involved from the outset in the reproduction of the class structure. From early colonial days, small farmers and a small class of *petit bourgeois* shop owners sat between the gentry and workers.

In 1842 the government further regulated the relationship between workers and their masters by introducing a *Master and Servants Act*, which gave criminal sanction to what was a civil contract. Workers could be, and often were, imprisoned for disobedience and impertinence. However, colonial workers had always shown themselves to be independent; for example, absconding from an employer to seek better wages elsewhere demonstrated a sense of their own rights as 'free born Englishmen'. Some even organised. From as early as the 1830s, seamen, whalers, rural workers and wharf labourers all attempted to exert some control over their wage levels.

The nineteenth-century sexual division of labour meant that in the colony many women did not do paid work. However, women who did not do paid work, and their families, experienced and reproduced the class structure and class inequalities in the wider culture of homes, public places, and through recreational and other social pursuits. In the middle and upper classes a non-working wife was a badge of gentility, but many such women worked unpaid in charity and philanthropy. Among working-class families a female breadwinner was often a necessity, and many single, widowed and married women worked as domestic servants, dressmakers, and in other occupations designated as women's work. Single women without families, such as the immigrant women who came to the colony in significant numbers from the 1850s, generally supported themselves in paid domestic labour, one of the very few forms of respectable work available to single women in the nineteenth century.

In the nineteenth century the colonial upper class's power came from land, through a system of pastoral capitalism that required cheap labour. Employers had first experimented with Chinese 'coolie' labour, then Parkhurst boys, then in the late 1840s York farmers agitated to have convicts brought to serve as cheap labour and force down the wages of free workers. Many free labourers had gone to other colonies once their indentures were served, so the labour market worked in favour of those free workers who remained. In the second half of the nineteenth century, northern pastoralists, unable to attract white labour, used Aboriginal labour, tying them into contracts of service or using brute force to ensure obedience. Pearling capital, often linked to pastoralism, used Aboriginal, Malay, and then Japanese labour for the same reasons and with the same force.

The pastoralists were also able to dominate the colony. The colony's first tentative steps towards representative government (the appointment of local dignitaries to a parliament and the restricted franchise) simply affirmed the power of pastoralists. Perth, though growing slowly until the 1890s, was too small to support workers' organisations, and although retailing, construction, transport and repair and a small finance sector supported a small middle class, it was too undeveloped to challenge the pastoralists' dominance.

The discovery of gold in the 1880s and 1890s changed all this. Firstly, it rendered the class structure more fluid by permitting more social mobility. Secondly, the immigration of 't'othersiders' and their experience of working-class politics in the eastern colonies made local workers increasingly conscious of their collective interests. Together they built a self-conscious movement. English carpenters, railway and wharf labourers on the coast formed a coastal trades and labour council. On the goldfields, craft workers and miners led the way. By 1900 there were sixty unions in WA, thirty each on the coast and goldfields. Twelve years later there were 166, covering 41 per cent of male workers. In the new century unions became part of the new compulsory arbitration systems in which the rule of law framed and shaped workers' relationships with employers. Goldfield unions often faced a new class of managers charged with running the mines, rather than owners of capital, because much of the mining industry

was financed by overseas capitalists. Workers were also divided: Catholic and Protestants; the skilled and the unskilled. Most unions were men's unions: masculinist, seeking a wage to support working families adequately, wanting to organise working women but preferring that they stay in the home.

The unions formed the Australian Labor Federation in 1899, winning immediate electoral success. It was overwhelmingly moderate and reformist, calling for reforms to make the electoral system fairer and using the state to secure workers' rights and exclude coloured labour. Parliament clearly shaped the movement's methods and policies. It believed reform could come through parliamentary action. In the early twentieth century its dominance was sometimes challenged—by Socialists, Wobblies (members of the International Workers of the World) and Communists, who argued that capitalism was based on the exploitation of labour by capital—but this argument made little long-term headway in the face of an overwhelming moderation in working-class politics.

The growth of Perth and the goldfields presented another challenge to the dominance of the pastoral elite. In the later nineteenth century professional and managerial elites and smaller businessmen mobilised, opening parliament to a wider constituency, while the landed gentry brooded on the changes from the Legislative Council. The non-labour factions in parliament were ultimately consolidated into a single anti-labour party, while employers organised their own associations to match the unions: the Chamber of Mines, the Chamber of Manufactures, a re-jigged Chamber of Commerce, and then an Employers' Federation in 1910–11. They did this partly to pursue particular aims: the Chamber of Manufactures in pursuit of tariffs, the Employers' Federation to fight the shop assistants union, the combined organisations to represent employers in the state and federal arbitration courts. Farmers formed their own organisations.

By 1910 WA was becoming integrated into the nation. It had joined the federation in 1901 and trades unions, political parties, employers associations, sporting and other organisations became part of national bodies. Federal politics and institutions shaped WA and interstate and overseas capital moved further into Perth and its urban workplaces. Despite bitter divisions (over conscription in the First World War, economic policy in the 1930s, communism in the 1950s, arbitration, tariffs, and welfare), White Australia and parliament itself held the classes together.

The class structure in WA was also manifest in cultural forms away from the workplace. People learned and experienced class ways in homes and suburbs. After the gold rushes suburban development in Perth increasingly took on a class character, especially once improvements in transport meant that it was no longer essential for workers to live close to their workplace. Peppermint Grove attracted gold-boom entrepreneurs, pastoralists, merchants and high civil servants. Nedlands–Claremont became solidly respectable and middle-class, increasingly dominated by the professions. Subiaco became the home of the respectable working class, attracting young workers from the east who lived in tents until they could build their weatherboard cottages. The men of working-class Bassendean worked on the nearby Midland railway workshops and in the engineering works along the railway line. North Fremantle workers worked in heavy industry in nearby Rocky Bay and the waterfront.

Suburbs and towns had their own elites. Fremantle had its own merchant class whose mansions still dot the Fremantle suburbs, and who effectively dominated Fremantle politics. Country towns were divided between wealthy farmers, businessmen and professionals who controlled institutions of power, and powerless farm and town workers: small farmers sat in between. In homes across the state, class was reproduced as parents taught their children class ways of seeing the world, sent

them out to schools which educated them into the social division of labour and saw them into jobs which usually replicated their own.

Western Australia's upper class created elite sports such as horseracing, and controlled cricket and tennis, while a lesser breed of merchants ran trotting. Hunts, high society balls, art galleries and the like were all part of the cultural capital of Perth's establishment. With lower middle-class allies, it tried to reform the leisure of the urban working class through campaigns against illegal gambling, drinking and youthful recreations, promoting instead 'rational recreations' such as museums, libraries and more respectable activities. High school education was simply unavailable to working-class children until the establishment of Perth Modern School in 1911, which offered working-class children the prospect of social mobility. Middle- and upper-class children could go to a range of private church schools (boys from the nineteenth century, girls from the first decades years of the twentieth), so the education system also reproduced the class structure.

Well into the twentieth century, WA had a three-class structure: an upper class, with its power in possession of the land; a middle class or bourgeoisie, divided between an upper group of the owners of capital and the old professions and a lower group of small proprietors including farmers; and a working class, divided between white and blue collar, skilled and unskilled, male and female, black and white workers but unified by its place in the division of labour and the politics of class. Perth's manufacturing base was small, and its social elite remained the old families; local capital formation was limited and Perth remained a branch town.

From the 1960s heavy industry at Kwinana and new mining ventures in the Pilbara shaped new class structures: finance capital, new concentrations of manual and white-collar workers and new levels of management. Class remained the main local marker of identity,

even as postwar migration and the movement of women into the workforce added new divisions to the working class. The class structure was changing.

As service industries expanded after the 1960s, the number of white-collar and service workers increased, many of them in new professions with credentials from an expanding higher education system. With the growing size and complexity of commerce, business and other organisations, new layers of management were formed. The growth of new professions and of representative professional and management bodies created a more complex middle class. The movement of married women into the paid workforce from the 1950s made the class structure more complex. Many families now had two working parents, sometimes in apparently different social classes, though men often remained the major wage earner as most women took part-time jobs. In Perth, suburban class identities also began to change, as middle-class couples moved into formerly working-class areas such as Fremantle, Subiaco and Highgate, and workers moved into new outer suburbs.

There were new layers of complexity in the 1980s. Deregulation of the Australian economy began to push workers off the bottom of the class structure, creating what some have called an 'under-class'. Union coverage, which had been steady at 60 per cent of the workforce, began to decline, and then fell catastrophically in the 1990s, to just 19 per cent of the workforce in 2002. The longstanding link between the Labor Party and workers changed as electoral politics and loyalties began to shift. Labor tied itself to 'buccaneer' capitalists and to new middle-class social movements like environmentalism. The collapse of Communism in Europe and in Australia made the radical view of class relations seem even more unsustainable.

The decline in workers' politics came about partly because of changes in the Australian and world economies. Industries with historically high rates of unionisation now employed

fewer people, and those with historically low rates employed more. Big organisations with large numbers of unionised workers outsourced work, while the small business sector, never a fertile sector for unions, grew. Part-time work increased; in 2002 it accounted for 30 per cent of all workers in WA. From the mid 1980s, employers and conservative governments attacked unions, gutting the arbitration systems and the protections workers enjoyed and putting many workers on individual workplace contracts. In WA the process went through three waves: in the Pilbara, in the 1980s, as mining giants such as Robe River de-unionised their workforces; in state parliament, in the later 1990s, when the Liberal and National government passed three waves of anti-union industrial reforms; and in the Commonwealth, which passed its own workplace reforms in 1996 and then in 2005. More workers in WA than anywhere else in Australia now have their working conditions regulated by contracts signed directly between themselves and their employers. Clearly, here was a demobilisation of workers and a new mobilisation of capital.

Things had already been changing prior to this. Since the 1960s, new social movements such as feminism, ethnic, Aboriginal, disability, sexual and generational politics had encouraged Western Australians to think of themselves less in class terms and more as women or men, black or white, gay or straight, old or young; and to see class identities as either complementary, irrelevant or oppressive. Some call these shifting and multiple identities part of a postmodern world. Some go further to suggest that all such categories are *passé*, that all we want are the lifestyles made available by industry's capacity to produce endless varieties of consumer goods and television's depiction of infinite consumption. Some say class was a manifestation of the old, modernist world, and that in the postmodern world individualism reigns supreme. Yet if this is so, how do people pay for these identities? Consumption

is mediated by the possession of resources, which is shaped by one's class position. Class also shapes the experience of gender, ethnicity and disability, so relationships to productive property and resources remain fundamental to how people experience their world, even as class declines as a way of constructing social identity. However, if class shapes the way we experience these other identities, it is also true that they shape the way we experience class. On that basis, class and class structure must take their place in a range of competing and sometimes complementary structures and identities.

The 2006 *Perth Social Atlas* reveals a divided city: swathes of suburbs with low incomes, high unemployment, low rates of home ownership and limited educational attainments; others with high incomes, low unemployment, and high rates of home ownership and levels of education. The same thing is happening in major rural centres, while the population drift means many country people are now part of the city's class structure. People's sense of their class identities may be declining, but inequalities are widening and these are shaped by one's place in the class structure. **Charlie Fox**

See also: Aboriginal culture and society; Gender; Industrial relations; Poverty; Trade unions; Welfare; Work, paid; Workplace associations

Further reading: Australian Bureau of Statistics, *Australian Social Trends* (2003); Australian Bureau of Statistics, *Perth: a social atlas* (2006); R. Connell and T. Irving, *Class structure in Australian history: poverty and progress* (1992); C. McGregor, *Class in Australia* (1997); J. Pakulski and M. Waters, *The death of class* (1996)

Coal Augustus Gregory's exploration party made the first discovery of coal in Western Australia in the bed of the Irwin River in 1846. It proved, however, to be uneconomic.

The increasing demand for coal as a fuel for domestic power generation, steam ships and the rapidly expanding railway system enticed the colonial government to offer a reward for the discovery of a major coal deposit. In 1883 George Marsh and Arthur Perrin claimed this for the discovery of a coal seam in the bed of the Collie River. Following a favourable report from government geologist, Harry Woodward, an exploratory mine was established in 1894 to prove both the quality of the coal and the extent of the reserve. The Collie coalfield was declared in 1896, and the government mine was offered for tender, and reopened as Wallsend in 1898. A number of small collieries began operation in the early 1900s until they were consolidated into one company, Amalgamated Collieries, in 1920. The Griffin Coal Mining Company began operating in 1927, and a third, Western Collieries, was formed in 1949.

Eighty per cent of the coal produced at Collie is used for domestic power generation, and the remainder for industrial purposes including mineral processing. Operations are undertaken by open-pit mining, the last underground mine closing in 1994. Although Collie is the only operating coalfield and has sufficient reserves for foreseeable demand, twelve other coalfields have been identified throughout the state. These include Irwin (discovered 1846), Wilga (1918), Boyup Brook (1960), Hill River (1961), Vasse River (1966), Scaddan (1979) and Balladonia (1979). Coal has been a major source of energy in WA for more than a century, though its continued dominance is an environmental challenge for the industry. **Garrick Moore**

See also: Energy, sources and uses; Exploration, land; Geology; Mining and mineral resources; Power stations; South-West
Further reading: J. H. Lord, 'Coal', in R. T. Prider (ed.), *Mining in Western Australia* (1979); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993); C. Stedman (ed.), *100 years of Collie coal* (1988)

Coasts Along its 12,500 kilometres of coastline, Western Australia exhibits a variable ensemble of coastal types that reflect geological setting, climate, oceanographic setting, sedimentation versus erosional processes, and the post-glacial rise in sea level. To the North there is the highly indented mangrove-lined coast in the Kimberley, formed as the sea inundated a dissected plateau of Precambrian rock set in a tropical humid climate. To the North-West there is the sandy beach and dune-lined high-tidal coast alternating with mangrove-lined mud embayments occurring along the seaward edge of the tropical, arid Great Sandy Desert. At the other extreme, to the South there are the barrier dune and estuaries along the Walpole–Albany coast, formed by the sea inundating a dissected and undulating granitic terrain in a subtropical humid climate. Some of the coastal tracts are unique and of global heritage significance, such as in the Pilbara and the Shark Bay region. In detail there are a myriad of coastal forms: high sea cliffs cut into bedrock, limestone, sandstone, or spongolite; rocky pavements; deltas and delta plains; long, sweeping beaches, barrier dunes, cuspate forelands and tomboles; and mangrove-vegetated tidal flats, estuaries, and coastal lagoon systems. The coastal landforms of WA, as with the majority of coasts worldwide, were initiated with the inundation effected by rising seas following the end of the last glaciation. As such, the coasts are generally considered young, less than 10,000 years old. Since then, erosion, deposition or sediment redistribution have resulted in the array of macroscale to microscale features evident today.

For the Indigenous peoples of WA, coasts were a special place, comprising a resource-rich environment with abundant food such as fish, shellfish, turtles, useful objects such as bailer shells for water-carrying, mangrove material for stunning fish or for culinary purposes, and freshwater shoreline springs. Many locations in WA exhibit evidence of the use made of coastal zones by Indigenous

peoples: constructed (boulder) fish traps; shell middens; and rock art illustrating the rich resource the sea offered.

Europeans settled the coastal zone and modified it to construct residential areas, industrial facilities and harbours. The major cities and towns, such as Perth, Mandurah, Geraldton, Bunbury and Albany, for instance, are all coastally located, and now contain approximately 80 per cent of the state's population, with subsequent environmental impact. Where there are inland settlements based on agriculture, forestry or mining, the sites of export are coastal: Tom Price and Paraburdoo export ore from Dampier and Port Hedland; the Wheatbelt inland in the Mid West exports through Geraldton; the woodchip industry of the South-West exports through the harbour at Bunbury. In fact, one of the earliest explorations along the coast was for the purpose of finding a safe harbour (Peel Harbour) to export karri logs from WA.

Since European settlement in 1829, the coastal zone has been subject to examples of low-key residential settlement (Onslow); intense urbanisation (Rockingham, Port Kennedy and Secret Harbour); industri-alisation (Kwinana, Port Hedland, Dampier); extensive natural resource exploitation (solar salt extraction along the north-west coast); extensive coastal re-landscaping (Bunbury–Australind, and the Dawesville Cut); development of harbours (Cockburn Sound, Hillarys, Port Hedland, Bunbury, Dampier); and disposal of industrial and domestic waste. Some of these activities have impacted on sections of Western Australia's unique coast. Coastal management in the early twenty-first century is in its infancy, and decision-makers have still to address the unique nature of the WA coast in terms of its heritage and global significance. However, there has been some positive development in coastal management since 1995 when the Australian government's Coastcare program was initiated through the Natural Heritage

Trust, whose aims are to protect and restore Australia's coastal and marine environments and their biological diversity. **Vic Semeniuk and Christine Semeniuk**

See also: Dawesville Cut; Jetties; Marine environment; Marine zoology; Ports
Further reading: C. A. Semeniuk and V. Semeniuk, 'Human impacts on globally to regionally significant geoheritage features of the Swan Coastal Plain and adjoining coastal zone, southwestern Australia', in V. Gostin (ed.), *The Australian environment. Australian journal of earth sciences*, special issue 21 (2001); V. Semeniuk, 'The Holocene record of climatic, eustatic and tectonic events along the coastal zone of Western Australia—a review', in C. W. Finkl (ed.), *Holocene cycles: climate, sea level rise, and sedimentation: Journal of coastal research*, 17 (1995); P. J. Woods, M. J. Webb and I. G. Eliot, 'Western Australia', in E. C. Bird and M. L. Schwartz (eds), *The world's coastline* (1985)

Collections, algae Algae was important to coastal Aborigines, although little information has been recorded beyond a few references in early Perth newspapers to Aborigines as col-lectors of algae. European collections began when William Dampier collected *Cystoseira trinodis*. A century later, Archibald Menzies collected several marine algae later described by Dawson Turner, and Jacques-Julien Houtou de Labillardière collected four algae, described by Carl Agardh.

François Péron and Charles-Alexandre Lesueur (Baudin expedition) both collected marine algae later described by the botanists Agardh, Lamarck, Lamouroux and Decaisne. Louis de Freycinet in the *Uranie* visited Shark Bay, where Charles Gaudichaud-Beaupré, Joseph P. Gaimard, Jean R. C. Quoy and Antoine Guichenot gathered further marine algae. Gaudichaud described epiphytic algae found growing on the seagrass *Amphibolis antarctica*. Collections by the zoologists Quoy

and Gaimard were used by Lamouroux to describe coralline zoophytes (calcified seaweeds). In 1827, during his visit to the Swan River, Charles Fraser collected several algae, including new species. Ludwig Preiss visited southern WA to collect specimens for sale. From 1838 to 1842 he gathered 200 species of marine and four species of freshwater algae. Linnaeus' student Otto Sonder described 27 new algae from the WA Preiss collection.

Between January and August 1854, the Irishman William H. Harvey collected marine algae at Albany, Cape Riche, Perth, Rottnest, Garden and Carnac Islands, and freshwater algae in the Kalgan River. James Drummond, William A. Sanford (Colonial Secretary) and George Clifton (Superintendent of Water Police) all assisted or communicated algae to Harvey. Almost sixty new algae were described from Harvey's collections. Harvey's Australian collections are illustrated in *Phycologia Australica*, the seaweed equivalent of Bentham's *Flora Australiensis*. The Swedish frigate *Eugenie* arrived in late 1852 at the Cocos (Keeling) Islands where Admiral Virgin collected. The Austrian frigate *Novara* visited WA in 1858. These algal collections were described by Albert Grunov. The crew of the German SMS *Gazelle* collected North-West algae, later described by Askenasy.

Arthur H. S. Lucas, honorary curator at the National Herbarium of New South Wales, collected from Geraldton to Albany in 1928. The Italian G. Capra collected marine algae in WA (in addition to gathering information on Italian immigration, 1908–1909). The algal collections were documented by De Toni and Forti.

After 1940, H. Bryan, S. Womersley (University of Adelaide) and Sophie Ducker (University of Melbourne), along with their students and many foreign phycologists, have collected marine algae in WA. In the late 1960s Heinrichs L. Skuja collected freshwater algae in WA, and Tim Entwisle (National Herbarium of New South Wales) continues to do so. With the expansion of the microalgal

work of CSIRO and AIMS and the study of the Leeuwin Current, numerous collections of marine neritic and oceanic phytoplankton have been made in WA.

Among the twentieth-century resident collectors of marine algae are Robert D. Royce (State Herbarium of Western Australia), Gordon G. Smith (University of Western Australia), Michael Borowitzka and John Huisman (Murdoch University). Marine and freshwater phytoplankton have been studied by Jacob John (Curtin University of Technology). **Roberta Townsend**

See also: Botany; Coasts; Collections, plant; French maritime exploration; Marine environment

Further reading: R. A. Cowan and S. C. Ducker, 'A history of systematic phycology in Australia', in *Algae of Australia* (2007); J. Huisman, *Marine plants of Australia* (2000)

Collections, fauna The Western Australian Museum is the main depository of the state's fauna collections, including fossils. Established as the Perth Museum in 1891, it originally housed only a geological collection derived from the earlier Geological Museum in Fremantle. The following year, ethnological and zoological collections from the Swan River Mechanics Institute were incorporated. The Museum also held some botanical collections that later were transferred to the WA Herbarium.

Before and even after settlement of the colony, most fauna collections from WA were sent to major British and other European museums. Some were obtained by naturalists on European scientific expeditions early in the nineteenth century, for example those gathered by François Péron in 1801–03 while on the French voyage under Nicolas Baudin in the *Géographe* and *Naturaliste*. Others were the result of fortuitous activities by individuals and government officials. European museums also sponsored special biological

collecting expeditions, such as that conducted by W. Michaelsen and R. Hartmeyer from the museums of Hamburg and Berlin in 1905 to south-west Western Australia. From these later expeditions duplicate material was sometimes returned to the WA Museum. In general, mammals, birds and insects and some molluscs were stored as dry specimens, and most marine specimens, reptiles, frogs and non-insect terrestrial arthropods were preserved in 'spirit' (alcohol). While most original specimens (called type specimens) of animals named as new species are thus housed in European museums, it is now a legal requirement that the types of newly described Australian species be lodged in an Australian institution such as the WA Museum.

Since 1969 the Museum has had statutory authority under the *Museum Act* to obtain and preserve representative sample collections of all species of fauna occurring in the state. All fauna specimens collected from state national parks and nature reserves must be deposited in the Museum. Collections are continually being augmented through strategic biological surveys, largely in collaboration with the Department of Conservation and Land Management (now Department of Environment and Conservation). Other government agencies generally deposit specimens collected during the course of research in the Museum. These have added greatly to the invertebrate collections in particular, increasing our knowledge of the richness of the fauna, and thereby confirming recognition of the state's South-West as a 'biodiversity hotspot'.

Collections at the WA Museum currently include some 36,000 specimens of mammals, 25,000 birds, 85,000 reptiles, 25,000 frogs, 125,000 insects, 120,000 arachnids (spiders and relatives and non-insect arthropods), 21,000 crustaceans, 2,500 worms, 190,000 molluscs (terrestrial and marine), 10,200 corals, anemones and relatives, 925 sponges, and 18,500 echinoderms (sea urchins and starfish). An electronic database of information on these collections is being compiled. While most of the WA Museum collections are used for research and are not readily available to the public, many are on exhibition, and for many years included some iconic specimens such as the skeleton of the blue whale familiar to Western Australians for over seventy years.

Some institutions such as universities also have reference collections. The University of Western Australia maintains a comprehensive Geological Museum (including fossils) as well as a representative zoological collection, primarily for teaching purposes. The Department of Agriculture holds a large entomological collection, mainly of insects and other arthropods of agricultural significance. **Barbara York Main**

See also: French maritime exploration; Geological history; Western Australian Museum
Further reading: P. Berry, 'Collections of a century', *Landscope*, Spring (1991); P. Berry, 'Natural science at the Western Australian Museum', *Museums West*, 7, 3 (1994); P. J. Stanbury, 'The discovery of the Australian Fauna and the establishment of collections', in D. W. Walton (ed.), *Fauna of Australia*, 1A (1987)

Collections, plant Collecting and naming specimens forms the basis of scientific knowledge about the plants of a region. For Western Australia this probably began with a Dutch voyage captained by Willem de Vlamingh, who visited the Swan River in 1697. Two plant specimens—*Acacia truncata* and *Synaphea spinulosa*—now in a herbarium in Geneva, are likely to have been gathered on this visit. In 1699 Englishman William Dampier made a collection at Dirk Hartog Island, East Lewis Island and Lagrange Bay. Twenty-five of his specimens survive at Oxford University.

In 1791 George Vancouver was the first European to discover King George Sound,

where the surgeon Archibald Menzies was enthralled by the rich, unique flora of that district. Next was a French expedition led by Bruny d'Entrecasteaux, his botanist being Jean J. H. de Labillardière. In 1792 they explored Esperance Bay where they made good collections. Another major French expedition under Nicolas Baudin, with the botanist Leschenault de la Tour, visited the west coast in 1801 and 1803.

King George Sound was the first landfall, in December 1801, for an expedition led by Matthew Flinders to survey the Australian coast. His botanist, the Scot Robert Brown, collected 500 species there and 100 at Lucky Bay near Cape Le Grand. The first European botanist to visit the Kimberley coast (as well as parts of the west and south) was Allan Cunningham with Philip Parker King on three survey voyages between 1819 and 1822.

All early botanical work was along the coast by visitors who took their collections to Europe. The first settlers at the Swan River in 1829 included the botanist James Drummond, who explored widely through the South-West and discovered hundreds of new plants. He sold his collections in Europe but retained a set that, after his death in 1863, was donated to the herbarium at the Melbourne Botanic Gardens. Founded in 1853 by Ferdinand Mueller, this was the only significant repository in Australia until local herbaria were established late in the nineteenth century. Explorers and settlers throughout the country sent specimens to Mueller.

Large collections were made by German visitors, especially Ludwig Preiss (1838–42) and Ludwig Diels and Ernst Pritzel (1900–01). An important early collector of seaweeds was the Irish botanist William Harvey in 1854.

In 1929 the plant collections of the Western Australian Museum, Department of Agriculture and Forests Department were combined to form a State Herbarium within the Department of Agriculture. It was moved into the Department of Conservation and Land Management (now the Department of Environment and Conservation) in 1987.

With improved access by road, sea and air, the twentieth century saw exploration throughout the state. Major collectors have been William Blackall, Charles Gardner (Government Botanist 1929–60), Gregory Keighery, Alex George, Ray Cranfield, Robert Royce, Ken Newbey, Rob Davis and Kevin Kenneally. The herbarium now contains more than half a million specimens of the 12,000 species recorded for the state. **Alex S. George**

See also: Botany; British maritime exploration; Collections, Algae; Dutch maritime exploration; French maritime exploration; Scientific societies; Western Australian Museum
Further reading: J. W. Green, 'History of early Western Australian herbaria', in P. S. Short (ed.), *History of systematic botany in Australasia* (1990); S. D. Hopper, 'South-western Australia, Cinderella of the world's temperate floristic regions', Part 1, *Curtis's Botanical Magazine*, 20, 2 (2003); S. D. Hopper, 'South-western Australia, Cinderella of the world's temperate floristic regions', Part 2, *Curtis's Botanical Magazine*, 21, 2 (2004)

Colonial health The Swan River colony was promoted in Britain as a place of opportunity and health. It attracted young and fit immigrants, many with families. The immigrants on *Parmelia* comprised forty-three males and twenty-seven females. There were twenty-four children under sixteen years, but no old people. The male preponderance was increased by the male garrison, although some of these were accompanied by their families. This demography set the pattern of morbidity and mortality.

There were some adverse factors in the early years of settlement. The early arrivals had come in midwinter and lived for some months on Garden Island. Their illnesses included dysentery and some minor trauma,

but were generally not serious. They depended upon imports for food. There was no starvation although scurvy was frequent. After the Colonial Hospital was established in 1855, ten of the first twenty patients were diagnosed as having scurvy. However, the most frequent metabolic disease in the community at this time was alcoholism. The colony was protected from most infectious diseases in its early years by isolation and a low population density.

Vital statistics for the early years vary between different sources, but were considerably better than those of contemporary England. In the years 1840 to 1855 colonial mortality was about ten per thousand, compared with twenty to twenty-five per thousand in England. Analysis of 1,067 deaths before 1855 shows that 261 were of infants up to one year old, but only 45 of persons aged sixty years or more. The male–female ratio was 2.8:1. The causes were unknown or natural in 19 per cent of these deaths, while trauma (physical injury) caused 16 per cent, and fever 13 per cent.

As the colony persisted and expanded, the patterns of disease and death altered. The arrival of convicts increased pressure on the medical infrastructure. Increased numbers and a higher metropolitan population density led to a series of epidemics of infectious diseases. These included whooping cough (1840), smallpox (1860 and 1890) and measles (1883).

The gold rushes late in the century had major health implications. The goldfields population increased explosively, but without corresponding infrastructure. Potable water was obtained by distillation. There was no sanitation. The railway did not reach Coolgardie until 1896, nor the Goldfields Water Supply until 1903. There were many mine accidents, with over 150 deaths between 1897 and 1900. The overwhelming health consequence, however, was a massive epidemic of enteric disease, especially typhoid fever. The incidence rose from 0.30 per

thousand in 1889 to a peak of 3.60 per thousand in 1895. The estimated total death toll from the epidemic was nearly 2,000 persons. By 1898 the epidemic was waning, although 296 deaths from typhoid accounted for 10.9 per cent of all deaths.

By the time of Federation, both the demography and the vital statistics of the colony were approaching the Caucasian norm. Infant mortality was approximately 16 per cent, and the overall death rate was sixteen per thousand. Typhoid still accounted for some 10 per cent of deaths, but old age and cancer were each responsible for two per cent, while tuberculosis contributed four per cent. An interesting but un-investigated group was thirty deaths by suicide.

In the colonial period the Aboriginal people were not included in official statistics, but it is known that their population reduced dramatically after European contact. They suffered from major epidemics in colonial years, for example, measles caught from Europeans in 1843 and 1883, although it is likely that smallpox from 1862 to 1870 came from Indonesian fishermen (as most Europeans were immunised by this stage). Aboriginal morbidity and mortality remained high, despite the endeavours of doctors and missionaries.

Overall, the Swan River colony generally maintained its reputation as a healthy place during the colonial period, and health services and vital statistics were comparable with or better than those of other colonies and their European sources. **R. A. Joske**

See also: Aboriginal health; Aboriginal population, contact; Birth; Child health; Death; Infant mortality; Occupational safety; Public health; Typhoid epidemics
Further reading: R. A. Joske and E. J. P. Joske, 'Mortality patterns in Western Australia 1829–1855', *Medical Journal of Australia*, 1 (1979); V. Whittington, *Gold and typhoid: two fevers: a social history of Western Australia, 1891–1900* (1988)

Colonial volunteers made an important contribution to Western Australia's defence in the years prior to Federation. Drawn from all ranks of colonial society and formed into locally based, largely autonomous units of men, volunteers undertook to act in defence of their communities and the colony in times of emergency. Given official sanction but limited practical support, they assembled in their own time for the purpose of undergoing military instruction.

The first volunteers were organised in 1861—almost wholly at Perth and Fremantle—in response to the impending withdrawal of the British garrison. In the years to follow units would form, disband and re-form throughout WA as local conditions and the fluctuating spirit of voluntarism dictated. Infantry, cavalry and artillery were each represented to some degree, and by the end of the century there were few significant population centres that could not claim some link to the volunteer movement.

Though improvements in training, equipment and organisation resulted in greater efficiency, the colony's volunteers never numbered more than a few hundred. The tradition they represented would inspire volunteers for service abroad during the Boer War. But when the movement passed into history following Federation, it did so, mercifully, having never been seriously tested. **Shane Carpenter**

See also: Reservists
Further reading: J. R. Grant, *'From captains to colonels': a photographic account of the development of the Western Australian Defence Force from 1861 to 1901* (1991); B. Nicholls, *The Colonial Volunteers: the defence forces of the Australian colonies, 1836–1901* (1988); G. F. Wieck, *The Volunteer movement in Western Australia, 1861–1903* (1962)

Colonial writing Personal and creative colonial writing from Western Australia provides a rich resource, affording a direct glimpse into the lives of the earliest immigrants.

Works catering to an English public, such as the works of Chidley Irwin (1835), are less interesting than those which seem more nearly expressions of authentic experience, such as George Fletcher Moore's diaries and letters (1884) and Wollaston's Picton and Albany Journals (1840–1850s). Both writers are particularly interested in master–servant relations written from the perspective of the propertied class. The letters of Henry Trigg (1829) empathise with the less privileged. Where the letters of Eliza and Thomas Brown (1841–52) record the harshness of the migrants' lot, those of the Bussell Family (1830s) accept its challenges. Georgiana Molloy's writing (1830s–1840s) expresses nostalgia for England alongside intense interest in indigenous flora.

In the West, the swift development of newspapers provided a forum for literary works. The *Perth Gazette* (1833) printed occasional poetry but had more immediate concerns than the development of a local literature. Nevertheless, articles on the Aboriginal leader Yagan (June 1833) and on the Australian Aborigine by R. M. Lyon (March 1833) suggest the experience of the new land was beginning to engender a new mindset. The *Swan River Guardian* (1836) also showed an emergent interest in the local scene, publishing a small number of poems.

The transportation of convicts to WA from 1850 contributed to the colony's cultural life as well as to its economy. Three notable editors of the *Fremantle Herald* between 1867 and 1886—James Pearce, James Roe and William Beresford—all came from a convict background. Beresford's column 'Chips by a Sandalwood Cutter', with its ironic wit and use of a racy colloquial idiom, had a wide appeal. J. B. O'Reilly, who arrived as a convicted Fenian in the colony in 1867 and later escaped to the US, published several poems as well as a romantic novel *Moondyne Joe* (1879), based on his Western Australian experience.

The *Inquirer* (1840) was a new departure in its avowed interest in literature, but, like the *Perth Gazette*, it largely adhered to English models. W. J. Robson's poetry was published in the *Inquirer*, as was most of the writing of Edward Landor. Landor's *The Bushman, or, Life in a New Country* (1847), despite its title, was more concerned to romanticise Australian life for an English audience. Henry Clay's work, published in the *Fremantle Herald*, explored Western Australian themes but its tone was also romantic and derivative. The colony's first work of fiction, *Tarragal—Bush Life in Western Australia* (1887) by Edward Hooley, serialised in the *Inquirer*, was also, despite its title, more concerned with constructing a romanticised picture of genteel life than engaging with local experience. **Cynthia vanden Driesen**

See also: Convict legacy; Fenians; Fiction; Newspapers, colonial
Further reading: B. Bennett (ed.), *The literature of Western Australia* (1979); J. Hay, 'Literature and Society, 1829–1979', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); B. Smith, 'Early Western Australian literature, a guide to colonial life' and 'Western Australian goldfields literature', in *University studies in history*, IV, 1 (1961–62), and IV, 2 (1963–64); B. Smith, 'Heyday of the goldfields', 'Bards of the backblocks', and 'Manly writers, manly wit' in *Westerly* 3 (1976), 1 and 2 (1977)

Commonwealth, relations with Western Australia's relationship with the Commonwealth has been strongly influenced by its particular geographic, economic and demographic circumstances: in particular, the state's physical remoteness; its dependence on primary products rather than manufactured goods; and its small share of the country's population. Incipient or overt tension and conflict are the natural consequence. Whether as a 'claimant' state seeking greater compensation, or as a benefactor state seeking a reprieve, WA has always articulated a sense of grievance. That sense of grievance has been strengthened by the powerfully centralising direction in which Australian federalism moved over the course of the twentieth century, and WA has been prominent among those states that have sought to maintain Australia's federal character.

Western Australia's reluctance to join Federation at all reflected these realities, compounded by the fact that its very late achievement of responsible self-government in 1890 meant that it had to pass from subordinate colony to subordinate state with virtually no intervening experience of semi-sovereign statehood. At the constitutional conventions, WA delegates sought a powerful Senate which they expected to act as a counterweight to the overwhelming demographic advantage enjoyed by the eastern states in the lower house.

Prior to Federation, WA was able to implement a customs tariff on goods being imported from the other colonies as well as from overseas. This provided the dual benefit of generating revenue for the state government and protecting local industry against competitive pressures. Not only was the constitutional right to levy a state-based customs tariff lost with Federation, but from that point on WA would be subject to whatever national tariff policies the Commonwealth decided upon. As the Australian economy became more regionally differentiated between a manufacturing heartland and a resources and agriculture hinterland, the problem then additionally became one of primary producers in WA paying higher prices for their inputs as a consequence of the protective tariff that subsidised manufacturing in Victoria, NSW and South Australia. This invidious position excited discontent in WA from the very outset—a discontent that has periodically erupted into outright secessionism.

Although constitutionally futile, the inter-war secession movement in WA contributed to an important change in the operation of

the federation. In 1933 the Commonwealth Grants Commission was established to assess state requests for financial assistance. Commencing its operations, the Commission considered the argument that some states were labouring under economic 'disabilities' as a consequence of Federation, but conceded only that the Commonwealth should bring the financial position of the weaker states up to that of the others. WA had previously received grant support from the Commonwealth and continued to do so as one of the Grants Commission's claimant states. The assumption by the Commonwealth in 1942 of an exclusive authority to levy income tax fulfilled fears articulated by WA in its case for secession some years earlier and at a stroke made all the states more dependent on fiscal transfers and the operation of the Grants Commission. Combined with the High Court's persistence in regarding sales taxes as coming under the section 90 prohibition on 'duties of custom and of excise', this left the states with greatly reduced capacity to generate own-source revenue. The result was to give Australia the highest level of vertical fiscal imbalance (VFI) among any of the major federations.

Exploitation of the state's great mineral resources in the 1960s radically changed Western Australia's financial status. As its relative per capita wealth came to equal or exceed that of other states, it discreetly ceased applying to the Grants Commission for assistance. These developments were initially held up by Commonwealth national interest controls and this newfound wealth did not bring to an end discontent with Commonwealth policies or the federation in general, particularly over the payment of royalties to the Commonwealth. The policy expansionism of the Whitlam Labor government in the early 1970s provoked strong rhetoric from the Coalition government of Charles Court in WA and helped revive secessionism. This was the first of a number of such irritants, among them the passage by the Keating Labor government of the *Native Title Act* in 1993. In response to

what it argued were the legislation's adverse implications for land ownership, land use and mineral development in WA, the Coalition government of Richard Court launched a High Court challenge to that legislation. Given the unequivocal nature of section 109 of the Constitution, though, it was not a challenge that stood much chance of success and was rejected in a 7–0 decision.

In 1991, Australia's system of 'cooperative federalism' was formalised through the initiation of COAG, the Council of Australian Governments—annual meetings of the Prime Minister, Premiers and Chief Ministers. This was the successor to the longstanding Premiers' Conferences which focused largely on finance distribution. Attempts by WA to rebalance the federation through COAG have generally been defeated by the absence of a united front among the states and territories. Periodic talk of reforms to reduce VFI came to nothing until in 1997 the High Court took its reading of section 90 to the logical conclusion and declared state 'franchise fees' on cigarettes and alcohol unconstitutional. In 1998 the Howard government responded by signing the *Intergovernmental Agreement on Reform of Commonwealth–State Financial Relations*, and in 2000 the Goods and Services Tax (GST) began operation, channelling all the net revenue from this comprehensive new national value-added tax to the states.

Increasingly through the 1990s, the chronic and growing concern of the state was with the operation of the Commonwealth Grants Commission—on the basis of whose calculations all federal transfers, including the GST, are made. The shoe was now firmly on the other foot, and WA was being forced to share its wealth with more needy states. Under reforms introduced in the late 1970s, the Commission implements an exacting system of horizontal fiscal equalisation (HFE) that makes Australia second only to the Federal Republic of Germany in the degree to which fiscal levelling occurs. A repeated demand of the state government is for a more moderate system that includes

greater recognition of the development costs involved in exploiting Western Australia's natural resource wealth. **Alan Fenna**

See also: Cinderella state; Constitution; Federal movement; Isolation; Politics and government; Secession; Taxation

Further reading: *Equality in diversity: history of the Commonwealth Grants Commission* (1995); B. Galligan, *Politics of the High Court: a study of the judicial branch of government in Australia* (1987); B. K. de Garis, 'Western Australia', in H. Irving (ed.), *The centenary companion to Australian Federation* (1999)

Communications is the transmission of information across distance, beyond the reach of normal social interaction. It takes two fundamental forms. The first, tied intimately to transport, is the transmission of information in physical forms such as letters, newspapers, official papers and books. Thus, at the time when only this kind of communication was possible, the speed of communication was limited to the speed of transport. The second form of transmission, telecommunications, is sending information using electromagnetism, including the use of fixed networks such as telegraph, telephone and optical fibre and broadcasting systems using the electromagnetic spectrum, including radio, television, microwaves and orbiting satellites. These new forms of communication are virtually instantaneous, although older forms, such as the postal service, remain in operation today. The development of telecommunications technologies has been a global phenomenon and the changes this has brought to Western Australia are similar to developments around the world. However, the sheer size of WA may have made changes here more significant than in smaller places.

Before white settlement Aboriginal people communicated physically at meetings and ceremonies, travelling the land on well-defined walking paths. Information and ideas could travel the length of what would become WA, passing from person to person and taking months or years to travel significant distances. White settlers brought new technologies that made communication faster but, because their communications were also tied to transport and white settlers depended on long-distance communications more than the Aboriginal people, that gave particular shape to their settlement of WA. Limitations initially confined settlement to a few locations within relatively easy travel of one other, such as the development of settlements along the Swan River and the coastline. Just as important to the Swan River colony's early settlers was communication with the rest of the world, and Britain in particular. This communication was conducted by shipping, which was perilous and subject to the elements so that when information arrived it was frequently out of date: for example, by the time the people of Perth learned of the Crimean War (1853–56), it had ended.

The first formalised communications system in WA was the postal service, set up in 1829. Lionel Samson was appointed the first Postmaster in Fremantle and James Purkis filled a similar position in Perth. Revenue was raised through levies rather than set fees for the service, but this changed in 1835 when the government assumed responsibility for postal services throughout the colony. The development of a regular and secure mail service paralleled the development of transport in WA and grew with the construction of roads networks, port facilities and a railway system. With the influx of people and resources in the 1890s, improvements to all transport facilities improved communications within the colony and beyond. In 1901 the Commonwealth government assumed responsibility for all postal services in Australia and WA and service developed thereafter to meet national priorities. These included the completion of a transcontinental railway link to the east in 1917 and subsidisation of the first air transport services to increase the speed of

mailtransport with the introduction of an air mail service to the North-West in 1921 and to the eastern states in 1929.

Newspapers were closely linked to mail services in this early phase. They were the source of local, colonial and global news for most people into the 1930s. At the turn of the twentieth century many communities possessed their own newspaper and several papers were printed in Perth. The later twentieth century was characterised by consolidation of newspaper ownership and a reduction in the number of titles published. In the twenty-first century Perth has one daily newspaper, *The West Australian*, that dominates the local market and remains one of the few independent major newspapers printed in Australia. However, from the 1960s Perth became part of the national newspaper scene with *The Australian* and *Australian Financial Review* becoming available on a daily basis.

The telegraph and its close relative the telephone were key elements in Western Australia's development because they enabled rapid communication over very long distances. They virtually shrank WA from a land of vast distances to a place in which orders could be issued and obeyed instantly and commercial intelligence passed on as though these distances between people were no more than the space of a personal conversation. WA entered the era of telegraphy reluctantly but, once committed, its service expanded rapidly. The first link was opened in 1869 between Perth and Fremantle and, under the influence of the Governor Weld, a major building program began that included 1,500 miles of telegraph wire. Over the next few years Perth was connected to Guildford, Newcastle (Toodyay), Northam, York, Pinjarra, Bunbury, and finally, on 28 December 1872, to Albany (then Western Australia's premier port). In 1873 the government became the sole operator of the colony's telegraph system and James Fleming was appointed its first Superintendent of Telegraphs within the Post and Telegraph Department. The Eucla

Telegraph Station was opened on 8 December 1877, thus linking WA to the eastern colonies through the Intercolonial Telegraph Line. In its heyday fifty telegraphists were employed at Eucla and it was the busiest telegraph station outside of a capital city in Australia. However, improvements in communications technologies gradually made it redundant and it was closed in 1927.

Western Australia's telegraph network became more significant when it was connected to the global network of submarine telegraph cables developed by the British in the nineteenth century. When the Broome cable, which connected Australia to Colombo via Java, came ashore in February 1889, Western Australia's isolation from the rest of the world ended. Another cable was brought ashore at Mosman Park in 1901, connecting Australia to the rest of the world via the Cocos Islands.

Telephone services were slow to develop in WA and the first telephone exchange was opened in Perth in 1887, followed by another in Fremantle later in the same year. Initially the telephone was expensive so its use was confined largely to the colony's middle class. In 1901, with the creation of the federal Postmaster General's Department, the Commonwealth assumed responsibility for telegraphy and telephony as well as postal services in WA, and all subsequent expansion occurred under its auspices. The telephone network grew to connect most places to a national system by the 1930s, but the everyday use of telephones and their installation in virtually every business and domestic home was not commonplace until the 1960s.

Despite a number of attempts, WA never developed a viable, independent film industry. Nevertheless, film played a significant role in communication in WA. From the 1920s onwards, cinema palaces such as the Capitol and Ambassadors in Perth were constructed as venues to show the latest Hollywood films, and by the 1930s virtually

every town and shire hall in the state had regular screenings of imported American films. At the beginning of each program, after the national anthem was played, newsreels from overseas and later Australia were screened that showed events that had occurred in far-off places.

Like telegraphy and film, radio (from 1924) and television (from 1960) were conduits through which Western Australians learned of the latest news and trends from far afield. These modes of communication exercised a profound influence on the cultural landscape, politics, sport and economy of the state. They also had a significant impact on daily domestic life. Radio created new audiences for news, drama and sports programs that later became the staples of television. In addition, radio encouraged people to schedule their day according to program timings. The housewife's serials were broadcast in the morning, family programs dominated the evening airwaves, and people became used to ordering their lives to include them. Sport dominated Saturday afternoons and Sundays were devoted to religious broadcasting. Television expanded on this trend and also influenced domestic life and suburban architecture. The lounge became the focus of domestic life with the television set strategically placed for family viewing. Meals were eaten watching television rather than at the dining table and the evening became devoted to viewing 'the box'.

The expansion of radio and television's impact on every facet of life in WA was reinforced through the advent of satellites that enabled broadcasting to reach very remote locations and for the production of radio and television to be centralised. WA became involved in satellite communication when the satellite tracking station was established in Carnarvon in 1966, followed by a number of experiments in intercontinental broadcasting via the Indian Ocean Intelsat. The major breakthrough with satellite broadcasting came in 1981 when the Commonwealth government created AUSSAT, ostensibly to equalise television reception throughout Australia. This brought an end to regional television broadcasting and meant the creation of the national television networks that further centralised production in Sydney.

Perhaps the most important development in communications occurred in the final decades of the twentieth century. Previously all communication systems had been owned and operated by governments and private companies that had been able to control and regulate them to a large extent. However, the development of a wide range of integrated circuit applications blossomed, including the rapid spread of computers and digital communications technologies such as mobile telephones and fax machines. The wide range of possibilities presented by these new tools converged into new modes of communication, beginning perhaps with the popular adoption of the personal computer in the 1980s, the adoption of digital links between computers over existing telephone systems in following years and the rapid and enthusiastic adoption of hypertext protocols in the mid-1990s. These led to the commonplace use of the Internet as a primary mode of communication in the early years of the twenty-first century. The integration of this new mode of communication with rapidly evolving mobile telephone capability meant that global communication became possible on a personal level. The key factor in the use of this telecommunications system was no longer distance and isolation, but affordability. **Brian Shoesmith and Leigh Edmonds**

See also: Australian Broadcasting Corporation; Cinema; Computing; Eucla; Film; Journalism; Newspapers; Postal services; Radio; Television; Trans Australian Railway; Transport
Further reading: J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985*

(1986); K. T. Livingstone, *The wired national continent: the communication revolution and federating Australia* (1996); A. Moyal, *Clear across Australia: a history of telecommunications* (1984); J. Moynihan, *All in a flash: Rottnest communications 1829–1979* (1988); B. Shoesmith (ed.), *Media, politics and identity: Studies in WA History*, 15 (1994)

Communist Party Particular challenges have been faced by the Communist Party in Western Australia. The labour movement of this large, isolated and sparsely settled state was dominated by craft unions and the conservative Australian Workers Union, and these unions enjoyed a unique relationship with a Labor Party that governed the state for all but three years from 1924 to 1947.

Following the establishment of the Communist Party of Australia in 1920, a branch was formed in Perth but received little assistance from the national leadership in Sydney. In December 1928 there were just fourteen nominal and four active members. Communism assumed significance with the onset of the Depression as an organiser of the unemployed, and during the subsequent recovery established a toehold in the mining and construction industries, the Midland railway workshops and on the waterfront. Subsequently, through its Movement Against War and Fascism, the Workers' Art Club (later Guild), the Left Book Club and Katharine Prichard's Modern Women's Club, the party drew in educated middle-class radicals. Membership rose to 130 in 1934 and 350 by 1939.

Activity was directed by full-time organisers, sent from the East. The recruitment of southern European and other immigrants gave communism a cosmopolitan cast, though it was softened by the publication from 1932 of a local newspaper, the *Red Star*. Communism excited particular alarm in the West, and its suppression in 1940 for opposition to the Second World War was severe; most of the state's leading members were gaoled for three to six months.

The German attack on the Soviet Union brought a change of policy and a rapid reversal of fortunes: the Lord Mayor of Perth became the president of the Australia–Russia Friendship League. Party membership reached a highpoint of 1,500 in 1944, and consolidated influence in a number of unions. Women filled the leadership positions vacated by servicemen, so that Leah Healy and then Barbara Boyd directed the party's work and gave it the additional dimension of community improvement. There were meeting rooms and bookshops scattered round the suburbs of Perth, as well as on the goldfields and country centres.

The onset of the Cold War quickly reversed these gains. Community organisations began to expel communists, local government authorities refused the use of their meeting places and the state parliament banned communist reporters. The state government blamed the Communist Party for a series of postwar disputes and the Arbitration Court fined and deregistered communist-led unions. They responded by forming a Western Australian Council of Trade Unions, to challenge the Labor Party's role as the state's peak union body, but were unsuccessful and had to wait until 1963 for a separate Trades and Labour Council. Communist unionists such as Paddy Troy, Ron Hurd, George Strickland and Maurie Lachberg had greater success in postwar campaigns for Indonesian independence through bans on Dutch shipping (1945–49), and they also supported the Aboriginal pastoral workers in the Pilbara walk-off in 1946. Under the demanding leadership of Sam Aarons, the new state secretary, the party kept up a round of activity despite a declining membership.

The state branch was free of the internal tensions that wracked the national Communist Party. It suffered few resignations or defections as a result of Khrushchev's

revelations in 1956 or the subsequent breach between Moscow and Peking. The growing liberalisation of the Australian party, and then the Soviet repression of the 'Prague spring' in 1968, had far greater impact. Leading industrial members such as Bill Latter and Ted Zeffert resigned; other activists such as Vic and Joan Williams left to join the pro-Moscow Socialist Party of Australia. On behalf of the state committee Rivo Gandini declared the need to break from the 'dogmatic, monolithic policies of the past', but the decline was inexorable. Following the collapse of the Soviet Union in 1991, the Communist Party of Australia was formally wound up along with its Western Australian remnant. **Stuart Macintyre**

See also: Industrial Workers of the World (IWW); Pilbara strike; Ports; Railway workshops; Trade unions; Workers

Further reading: S. Macintyre, *Militant, the life and times of Paddy Troy* (1984); J. Read, *Marksy: the life of Jack Marks* (1998); J. Williams, *The first furrow* (1976)

Communities, intentional (alternative)

Intentional or alternative communities are established with the intention of creating a new and better way of life by living apart from the norms of society. Perhaps the Camden Harbour settlement, established in 1864 by William Harvey, was Western Australia's first such group—a sort of capitalist utopia. After nine deaths within months of establishment, the one hundred settlers abandoned the project.

New Jerusalem was established near Wickepin on 29 September 1902 by James Cowley Morgan Fisher and forty followers. By 1905 they had seventy members on 4,000 hectares, with 400 hectares under crops, their own school, hall and church. Fisher was a mystical, divinely inspired leader whose followers sought heaven on earth. The Minister for Agriculture visited in 1906 and was very impressed, believing they were making the best of 'communism', and asserted 'they deserve encouragement for the State requires thousands of their class'. New Jerusalem prospered until Fisher's death in 1913, then members slowly merged into the general community.

In 1921 the state government promoted group settlements wherein migrants would form self-reliant village communities. By 1926 there were 135 settlements, with over 9,000 people, in Manjimup, Margaret River and Bunbury regions, but most soon failed.

During the early 1930s the London-based National Colonisation Company promoted community settlements for the Kimberley area where settlers were expected to develop a prosperous, self-sufficient lifestyle. The scheme quickly collapsed.

The Freeland League for Jewish Territorial Colonisation, in London, proposed Kibbutz-style settlements in the Ord River region during the late 1930s. Isaac Steinberg, a lawyer who had been Justice Minister in Lenin's Cabinet, came to WA to establish communities for 75,000 Jews. The WA government supported the scheme although many Jewish groups were opposed. In any event, war prevented action.

In 1963 'Shalam' was established near Armadale by Mary Broun and Fred Robinson. Members sought to live communal, environmentally sustainable lives, in touch with 'cosmic' forces. Robinson believed that help would come from the 'Space Brothers' from a more evolved planet. In the mid 1970s they moved to near Balingup, called themselves Universal Brotherhood, and built a landing pad for flying saucers. Much altered, they now call themselves Brooklands Community.

In 1964, following a prophetic vision, Molokans started migrating from the USA to the Bunbury region. Originally from Russia, they sought to live collective, sin-free lives. Overcoming local opposition, they established a close-knit, prosperous community, then slowly blended into society. Today, about

forty Molokan families live near Yallingup and Bunbury, and still follow Mosaic dietary laws, although most have abandoned traditional dress.

During the 1970s several 'new age' intentional communities were established. Belvedere (1971–84), on Leschenault Peninsula, had an anarchistic, eco-spiritual base, while Nethania (1974–80), near Chidlow, evolved from Theosophical ideas of living with 'nature spirits'. Other intentional communities such as Eshkol Springs and Happy Valley were established during the 1980s, while the Rajneesh attempted to create a settlement near Pemberton and at Fremantle.

The Wolery, established near Denmark in 1977, is the best known of the contemporary thriving intentional communities. Several others, often called eco-villages, are established to the east of Perth and in the South-West, while there are several co-housing communities in Fremantle. **William J. Metcalf**

See also: Camden Harbour; Group settlement; Jewish settlement, Kimberley; New Age; Rajneesh (Orange People); Theosophy **Further reading:** L. Gettler, *An unpromised land* (1993); W. Metcalf (ed.), *From utopian dreaming to communal reality* (1995); W. Metcalf and G. Featherstone, 'A Messiah for the West: J. C. M. Fisher and the Church of the Firstborn in Western Australia', *Journal of Australian Colonial History*, 8 (2006)

Competition policy Australia has a long tradition of government intervention in the economy. In the nineteenth century colonial governments subsidised migration, undertook capital borrowing, directly invested in infrastructure and ran business enterprises, especially railways. This degree of intervention was unusual for a British colony and was labelled 'colonial socialism'. Following Federation in 1901, a more complex pattern of intervention evolved. Governments gradually became involved in economic management,

direct regulation of the private sector and the provision of social welfare. Economic and social policy was dominated by the creation of 'protective' strategies to help preserve living standards, including arbitration (1904), the basic wage (1907) and tariff protection. The trend towards greater government intervention was strengthened in the 1930s as a result of the Depression and the theories of John Maynard Keynes.

These 'protective' strategies remained popular until the early 1970s when economic growth faltered and the economy experienced stagflation. At the same time, globalisation was increasing the pressure on nations to be competitive. However, high tariff protection had led to the creation of an uncompetitive manufacturing sector and Australia was finding it increasingly difficult to keep pace with the rapidly growing economies of the Asian region. Australia, together with many other nations, was, to use C. B. Schedvin's phrase, on the 'hinge of history', and had to make major policy changes. Due to its failure to deal with stagflation, Keynesianism was discredited and monetarism, as promoted by Milton Friedman, increasingly influenced policy making. Friedman argued that the economy and business was best served by freeing markets and taking away government regulation and involvement in business. In Australia and many other developed economies, the policy debate was won by the 'free-marketeers' or 'economic rationalists', and governments began to increase the exposure of the economy to the chill of competition.

The Whitlam government's 25 per cent tariff cut in 1973 and the creation of the Industry Assistance Commission (now Productivity Commission) to replace the Tariff Board signalled the start of a new economic openness. The reform process, known in Australia as microeconomic reform, accelerated in the 1980s under the Hawke Labor government (1983–91), but Liberal/National Party politicians also accepted the need for

competition reforms. Major reforms included the floating of the Australian dollar in 1983, the deregulation of the financial system, further tariff-cutting, a retreat from 'big government' and deregulation of the labour market (the social wage and centralised arbitration were gradually replaced by enterprise bargaining). Most government enterprises were either 'commercialised' (required to operate on a more commercial basis), 'corporatised' (restructured as separate legal entities with clear objectives, a Board appointed on the basis of expertise and clear accountability arrangements), or 'privatised' (in its purest sense, sold 'lock, stock and barrel' to the private sector). A key principle underlying the reforms was competitive neutrality, that is, all enterprises should compete on equal terms. Western Australian examples of reformed public enterprises include the Fremantle Port Authority, which was commercialised in 1996, and the privatisation of the gas utility to form Alinta Gas in 2000.

In 1992 the federal and state governments set up the Hilmer committee on national competition policy. The Hilmer Report (1993) found that regulation was the main barrier to increased competition in the economy and recommended that there should be a coordinated national approach to reform rather than an industry or state-based approach. In 1995, after some haggling over the distribution of the costs and benefits, the federal and state governments, including WA, signed the National Competition Policy (NCP), which implemented most of Hilmer's recommendations. As part of the reforms, the Trade Practices Commission and the Prices Surveillance Authority were merged in 1995 to form the Australian Competition and Consumer Commission (ACCC), which became the main institution responsible for competition policy. Under its inaugural head, Professor Alan Fels, the ACCC aggressively promoted competitive behaviour throughout the economy. In response to complaints from business interests about the ACCC's

activities, the Howard Liberal/National Party government set up a review of its operations; the review (2003) suggested that the ACCC adopt a more conciliatory approach, but, significantly, did not recommend any major changes to its powers or functions.

While microeconomic reform and NCP are generally credited with facilitating Australia's strong economic growth since the 1990s, there is growing concern about increasing inequality and the social effects of these policies. Some Australians are even beginning to look back with nostalgia to the 'protective' strategies of the past. It seems clear that the nation had to adjust to changing global economic conditions, but, if the aim of economic development is to improve social welfare, economic policies should address social inequities as well as maintain an efficient and competitive economy. **Malcolm Tull and Leigh Edmonds**

See also: Economy
Further reading: N. G. Butlin, A. Barnard and J. J. Pincus, *Government and capitalism: public and private choice in twentieth century Australia* (1982); B. Dyster and D. Meredith, *Australia in the Global Economy: continuity and change* (1999); C. B. Schedvin, 'The Australian economy on the hinge of history', *Australian economic review*, 1st Quarter (1987)

Computing Before 1962 Western Australians had to travel to the eastern states or overseas to use computers. The first computer in Australia, CSIRAC, was built by Trevor Pearcey and colleagues at CSIRO in 1951; it was followed by SILLIAC built at Sydney University in 1956, WREDAC, an Elliot 403 computer installed at the Weapons Research Establishment in Salisbury, South Australia, and UTECOM, a DEUCE computer installed at the University of NSW.

The first computers in WA were installed in 1962: a Bendix G-15 valve computer in

the Main Roads Department, acquired for the Mitchell Freeway design project, followed by an IBM 1620 computer, one of the first transistorised computers to be built, at The University of Western Australia (UWA) in September that year. Both were used for scientific and engineering applications. Although amazingly slow and powerless by modern standards, computers were increasingly acquired by the larger organisations that could afford them. The state government and the TAB, for example, soon recognised their use in administrative applications. The WA branch of the Australian Computer Society was formed in 1966 and Dennis Moore (UWA), Dan McCarthy (WA Treasury) and Des Carpenter (TAB) were all elected Fellows of the society in recognition of their early pioneering work with these acquisitions. The Governor of WA, Dr Ken Michael (2005–), was also a pioneer in the use of computing at the Main Roads Department while commissioner in the 1990s.

The invention of the minicomputer (early 1960s) made it much easier to buy a computer. A survey revealed that by that 1973 there were forty-five computers installed in WA—nineteen mainframes (large computers), and twenty-six
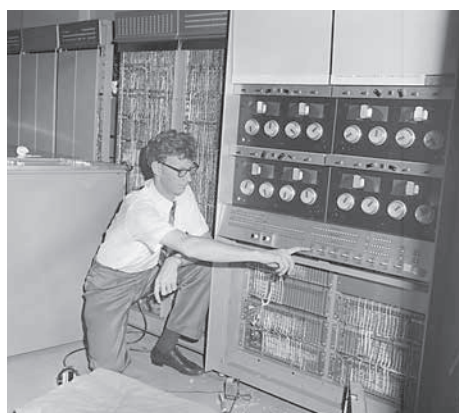
Ian Nicholls, Senior lecturer in Computing at UWA pictured with the university's new computer, February 1965. Courtesy West Australian *(DD2297)*

minicomputers—compared with about two thousand Australia-wide.

Another innovation that profoundly affected computer use in WA was time-sharing, whereby a central computer could be used by many people, apparently simultaneously, while it was located remotely and connected by telephone lines. UWA was the first organisation in the world to take delivery of such a computer, the PDP-6 from Digital Equipment Corporation near Boston, USA, installed in May 1965. It was a bold move, given that Perth is the furthest city in the world from Boston, but it meant that many organisations and even individuals in Perth who could not afford their own computer could henceforth make good use of the new technology. This sharing led directly to the formation of the Western Australian Regional Computing Centre (WARCC) in 1972, based at UWA. WARCC acquired a large Cyber 73 computer, in addition to the PDP-6, for use by a range of educational, government and private organisations, typically engineering and mining companies. In addition to the forty-five computers identified in the 1973 survey, more than seventeen remote stations were connected to these computers. Many school and university students were introduced to computing via these computers, school students employing a system called Miniwaft, developed at UWA and using punched cards, with pre-shaped holes pushed out with a paper clip.

The advent of the microcomputer from 1975 has changed the scene dramatically. The Microbee (1978), for many years the computer of choice in WA high schools, played a significant role in exposing many more people to computers. The development of the IBM Personal Computer in 1981 accelerated the mass use of microcomputers. Latest estimates indicate there are more than one million computers installed across the state, most of them joined to other computers worldwide via the Internet, in an extension of the remote connections pioneered in WA in the mid 1960s.
T. Alex Reid

See also: Communications
Further reading: P. E. Ceruzzi, *A history of modern computing* (1998); T. Pearcey, *A history of Australian computing* (1988)

Conciliation and arbitration In 1899 an ad hoc tribunal was set up to decide issues in a costly, divisive and sometimes violent five-week dispute on the Fremantle waterfront. The Lumpers' Union lost most of the arguments but the fact that the employers agreed to arbitration after vehemently opposing any union role during the dispute was a significant step. The experience caused John Forrest, then premier and a staunch opponent of compulsory arbitration, to change his mind. This and the growing significance of the political activities of unions resulted in the passing of the *Industrial Conciliation and Arbitration Act 1900*. It was one of the final statutes of the last colonial parliament in Western Australia.

In July 1900 a referendum resulted in a vote that WA join the federation of Australia already endorsed by five other colonies. The exclusive powers reserved to the parliament of the new nation were prescribed in section 52 of the *Commonwealth of Australia Constitution Act 1900.* Section 51, however, set down other powers, including the power to make laws for conciliation and arbitration for the prevention and settlement of interstate industrial disputes. In 1904 the federal Arbitration Court was established under this power. Its impact in WA was slight, however, and until the early 1990s labour relations in the great majority of the state's workplaces were covered largely by the state arbitral body, though test cases in the federal jurisdiction were usually endorsed by it.

Compulsory arbitration of industrial disputes, collective bargaining (with unions legitimised through registration from 1902) and industry-wide regulation of minimum terms and conditions, as well as statewide minimum standards, developed as cornerstones of the conciliation and arbitration system in WA to the end of the 1980s. In 1963 the (WA) *Industrial Arbitration Act 1912–63* was amended to replace the Arbitration Court with a lay tribunal and make conciliation its primary role.

Fundamental changes occurred in the last two decades of the twentieth century. The (WA) *Industrial Arbitration Act 1979* outlawed preference in employment to union members and established rights of access to the state tribunal for individual employees claiming unfair dismissal or certain denied contractual benefits. Largely unremarked at the time, this new jurisdiction accounted for a big proportion of the Western Australian Industrial Relations Commission (WAIRC) conciliation and arbitration role by the end of the century.

There was also a shift from industry-wide regulation of minimum conditions of employment. Following a concerted push by the peak union body in Australia and the federal government led by prime minister Robert Hawke, the 1991 National Wage Case decision forced a shift from industry-based award regulation of conditions of employment to enterprise bargaining agreements exclusive of any access to arbitration in the process. This decision and its sequels fundamentally altered the roles of industrial tribunals, particularly after amendments to the federal statute legalised certain strikes and lockouts as part of the bargaining process.

In 1993–97 a raft of state legislation introduced by the conservative Court government significantly reduced the jurisdiction of the WAIRC, set up a separate system of regulation of employment through individual employment contracts and curtailed union rights. Much of this legislation was repealed in 2002 by the Gallop Labor government and the jurisdiction of the WAIRC was extended. However, by then there had been a significant expansion of the role of the Australian Industrial

Relations Commission in WA (AIRC), as unions, reacting to the earlier legislation, had sought coverage by the federal tribunal. This trend continued as many employers sought regulation of individual contracts under the federal system rather than the new state system, which was relatively difficult to access. With these changes and the effect of a series of expansive interpretations by the High Court of the industrial relations powers and other powers given to the Commonwealth parliament under the Constitution, the role of the WAIRC was significantly reduced by the turn of the century.

Radical change has continued and the continuance of the traditional conciliation and arbitration system in any significant way is under question. The conservative Howard government capitalised on changes in the composition of the Senate to have the *Workplace Relations Amendment (Work Choices) Act 2005* passed by the federal parliament. Nearly 300 pages of regulations followed for implementation in 2006. The principal thrust of the legislation was to individualise employment relations and marginalise conciliation and arbitration tribunals throughout Australia. **Sally Cawley**

See also: Industrial relations; Trade unions; Work, paid; Workers; Workplace associations
Further reading: M. V. Brown, *Western Australian industrial relations law* (1987); B. Oliver, *Unity is strength: a history of the Australian Labor Party and Trades and Labour Council in Western Australia* (2003)

Congregational church In 1843 Henry Trigg and nine colonists, finding the Methodist churchmanship of the Rev. John Smithies too 'high' for them, met to found a Congregational chapel. The first Trinity Congregational Church opened in 1846 and its first ministers were appointed—Rev. James Leonard (1851–54) and then Rev. J. Innes (1862-68). By 1848 the number of

Congregationalists (or Independents) in the colony had increased to 187. Lay preachers began services in Bunbury and Busselton in 1848, and in 1853 Rev. Joseph Johnston commenced a church in Fremantle. In 1866 the Rev. Andrew Buchanan began ministry in Bunbury and later, on horseback, undertook extensive home missionary work, earning the title 'the John Wesley of the South West'. In 1895 the three existing churches, Perth, Fremantle and Bunbury, formed themselves into a Congregational Union. In 1901 there were 4,404 Congregationalists in WA, nearly 2.5 per cent of the total population.

Congregationalists fought against state aid and self-financed the building of new churches and the acquisition of land. Among the earliest churches built were Leederville (1896) and Victoria Park (1897). Clubs and societies were part of Congregational life, and Congregationalists were active on temperance and laws related to licensing and gambling.

Between 1906 and 1913 twelve new preaching places were established in country districts and Congregationalists cooperated with Methodists and Presbyterians to provide a missioner for the Transcontinental Railway. As war approached, the Welsh Free Church joined the Congregational Union, and the possibilities of establishing a theological hall and of union with the Methodists and Presbyterians were mooted. From 1925 there was limited home mission cooperation until, in 1971, the three churches formed the Joint Board of Local Mission. The Congregational Church slowly declined in WA. In 1954 the number of Congregationalists, 6,844, represented only one per cent of the population.

In 1970 Congregationalists joined with Presbyterians in founding a residential college, St Columba, at The University of Western Australia, and in 1973 partnered Methodists and Presbyterians in the United Department of Theological Studies, a predecessor of the Perth College of Divinity, inaugurated in 1985.

All but five of the churches of the WA Congregational Union joined the Uniting Church in Australia when it was inaugurated in 1977.
John H. Smith

See also: Spirituality and religion
Further reading: M. Brockis, *A History of Trinity Congregational Church, Perth, Western Australia 1914–1984* (1988); G. L. Lindsay, *Congregationalism in Australia* (2001)

Conscription for military training and service began in 1909, when the Commonwealth government amended the *Defence Act* to compel fourteen- to eighteen-year-old boys to attend regular military training. In 1911 Western Australian Labor Senator George Pearce instituted harsh punishments for evasion. By 1915, Australia-wide, 636,000 boys had enlisted in the scheme and 34,000 had been prosecuted for evasion. At the Fremantle Court 140 cases were heard in one week in 1912. Jabez Dodd MLC protested against the injustice of a system that gave a criminal record to 'decent, respectable lads'. The scheme was cut back in the 1920s and suspended in 1929.

In two referenda during the First World War, Western Australians favoured the conscription of men for military service overseas—thereby going against the national trend of rejecting conscription in both referenda. In 1916, on 28 October, 94,069 citizens (70 per cent of those who recorded a vote in WA) voted 'Yes' for conscription, and in 1917, on 20 December, 94,166 (65 per cent) voted the same way. The ALP was split by the issue, losing five of its six WA senators, one MHR and nine state parliamentarians. Subsequently the pro-conscription, non-Labor parties formed a national coalition of ex-ALP, Liberal and Country Party members.

When the Second World War began in 1939, the United Australia Party government immediately reintroduced conscription for home service. Exemptions were initially permitted to men over forty-five (later extended to sixty), married men, Indigenous Australians, ministers of religion and theological students, but others found it very difficult to convince a magistrate of their sincerely held conscientious objection to killing another human being. An estimated ten thousand men were serving in militia forces in WA by December 1941. Under the Curtin Labor government's *Militia Act* of February 1943, conscripts would be liable to serve with the Australian Imperial Force (AIF) in the south-west Pacific if required, but most took the opportunity to join the AIF, rather than serving as conscripted members of the Citizens Military Forces (CMF). By June 1943 over five hundred civilian conscripts were also serving in the state's Civil Construction Corps.

Compulsory National Service Training Schemes operated during the periods 1951–59 and 1964–72. Despite Australia's contribution of military forces in the Korean War (1950–53) and the Malayan Emergency (1948–60), no conscripts were sent from Australia. Deferment was granted to men who could prove that their studies or their apprenticeships would be seriously dislocated by performing National Service, and exemptions provided for men with certain disabilities, ministers of religion, theological students and conscientious objectors. Between January 1951 and July 1955, sixty young Western Australians applied for complete exemption and eighty-eight for non-combatant service only. (Separate WA figures for enlistments of National Servicemen are unavailable.) In comparison, according to official national figures, 419,913 trainees had been registered by June 1958, 209,906 had been enrolled for military service and 3,679 applications for exemption had been lodged.

In the second National Service Training Scheme, which operated between 1 January 1965 and 30 June 1971, 643,000 Australians were registered, of whom 51,279 were enlisted in the army. Unlike the previous

schemes, conscripts were sent to a war zone: 19,450 conscripts served in the Vietnam War and 200 were killed. Military conscription was halted by the Whitlam Labor government in December 1972 and has not operated since that time. **Bobbie Oliver**

See also: First World War; Korean War; Malayan Campaign; Pacifism; Reservists; Second World War; Vietnam War

Further reading: J. Gregory (ed.), *On the homefront: Western Australia and World War II* (2000); B. Oliver, *Peacemongers: conscientious objectors to military service in Australia, 1911 to 1945* (1997)

Conservation and environmentalism encompass a range of activities directed towards environmental protection. They have arisen as people have recognised that the forms taken by economic activities such as farming, forestry and mining have threatened the health or survival of particular species, landscapes or ecosystem processes.

For thousands of years, through to the present, Aboriginal peoples viewed and managed their country holistically, but the colonists arriving in the nineteenth century had a very different outlook. For them, the environment was not a priority, though steps were taken to preserve its utility for production and recreation. Some native (and imported) species received a degree of protection under the *Preservation of Game Act* of 1872, mainly to ensure there were enough of them to hunt in season. In the same year, new regulations provided for the reservation of land for public recreation and amenity, and part of the area now called Kings Park was set aside for this purpose. Other sites were protected for their potential tourism value, including the caves in the Leeuwin-Naturaliste area, which were first reserved in 1894.

Conservation was also pursued by individuals and organisations devoted to science and nature study, such as the short-lived Western

Australian Natural History Society (est. 1891) and the Mueller Botanical Society (est. 1897), whose primary objectives included the preservation of native flora. The first scientific conservation reserve in Western Australia—approximately 65,000 hectares of forest near Pinjarra—was approved in 1894, following an approach from the Australasian Association for the Advancement of Science. At the time it was believed that the area had little economic value, though in a colony bent on development it soon fell under the jealous gaze of timber merchants, and in 1911 it was converted into a timber reserve. Conservation measures in the Stirling Ranges were more enduring, though still subject to compromise. After lobbying by conservationist J. G. Hay, 327,000 hectares of the ranges and surrounding land were temporarily reserved. However, those with an interest in closer settlement did not like to see such a large expanse of land 'lying idle', and the Stirling Ranges National Park, created in 1913, was a more modest 109,000 hectares. Remote Barrow Island, declared an 'A' class reserve in 1910, was another early addition to the conservation estate.

Too few efforts were made to secure reserves in the Wheatbelt during the rapid agricultural development of the interwar years, in spite of lobbying by conservation-oriented organisations such as the Royal Australian Ornithologists Union and, from 1924, the Western Australian Naturalists' Club. They were joined in 1939 by the Western Australian branch of the Gould League of Bird-Lovers, which focused on achieving environmental protection through education.

As urban and industrial development accelerated in the postwar era and cherished landscapes came under threat, more conservation-minded groups were formed, including the Society for the Preservation of Kings Park and the Swan River (1954), the Tree Society (1956), the Wildflower Society (1958) and the National Trust (1959). One contested site was Kings Park, where

proposals in 1954, 1957 and 1959 to build a swimming pool complex were defeated by staunch opposition, especially from women's organisations such as the Women's Service Guild and nature-oriented groups such as the Gould League and the Western Walking Club. In the same period some members of these groups opposed, unsuccessfully, the plan to infill parts of the Swan River for freeway construction.

As numbers of vehicles and industrial establishments increased, air pollution became another concern. Following action by other states, the government moved on the issue in 1964, passing a *Clean Air Act* which provided for licensing and regulation of polluting activities, but only token fines for non-compliance.

The character, language and to some extent motivations of environmental activism changed in the 1970s, as a growing number of people worldwide sought not just to preserve nature for recreation, future use or scientific purposes, but to minimise human impact on the environment. They spoke of the complexity and interconnectedness of ecological systems, or even the rights of nature itself, and often sought to challenge—in radical ways—the morality of increasingly exploitative modes of resource extraction. Together they formed a new social movement.

Environmentalists tackled a wide range of issues, but from 1967 many came together under the umbrella of the Nature Conservation Council of WA (later the Conservation Council of WA). Three years from its inception the Council led a 'Conservation Campaign' involving a massive petition, torchlight parade, and promotion of a Conservation 'Bill of Rights'. The campaign proved a stimulus to the creation of the Environmental Protection Authority in 1972, and government action to establish a comprehensive conservation reserve system.

In WA the impact of environmentalism would be most strongly felt in the forests of the South-West. When timber company

Bunnings signed contracts for the sale of woodchips to Japan in 1973, small but vocal groups opposed the agreement and its clear-felling mode of forestry, which they believed sacrificed aesthetic and ecological values to wood production. The cause was taken up in 1975 by two organisations that would lead the fight against the new forest regime: the Campaign to Save Native Forests and the South-West Forests Defence Foundation. Although they raised the profile of forest issues, they did not, at this stage, attract mass support. Their cause was helped little when in 1976 two men from the Manjimup area, Michael Haabjoern and John Chester, attempted to blow up the new Bunbury woodchip loader. Although they had ensured that nobody was hurt, they were each gaoled for a minimum of three and a half years.

Whaling was another focus for environmental activism, and in 1977, amid international concerns over the morality and sustainability of whaling, representatives from Greenpeace and the Whale and Dolphin Coalition arrived in Albany. Charles Court's coalition government responded with legislation to facilitate the arrest of those involved in anti-whaling activities at sea. Supporters of whaling pointed to the importance of the industry to the local economy, and dismissed suggestions that (live) whales represented a significant tourism resource, but falling prices and quotas saw whaling operations cease in 1978.

As more people began to think ecologically in the 1970s and 1980s, wetlands were valued more highly and several campaigns centred on their protection, with mixed results: residents' group Friends of Star Swamp prevented their local wetland from disappearing under housing in 1983, but impassioned protests the following year failed to prevent the construction of Farrington Road through sensitive wetlands near Murdoch University. Waterbirds, too, had vocal defenders, and after a vigorous campaign recreational duck shooting was suspended by the Lawrence

Labor government in 1990 and banned in 1992, making WA the first Australian state to outlaw it.

In addition to 'nature-based' environmentalism, increasing attention was given to issues of pollution and toxics. Environmental and peace interests were represented in a large rally in Perth for a moratorium on uranium mining and export in 1977, and in 1984 the Nuclear Disarmament Party candidate Jo Vallentine was elected to the federal Senate. Others turned their attention to renewable energy for a sustainable future. The Pesticide Action Group was active during c. 1975–86 and from 1987 Perth-based group Householders for Safe Pesticide Use led a national campaign against organochlorine pesticides, which were finally deregistered in all states in 1995. Air pollution from vehicle emissions was an ongoing concern, and in the 1990s environmental groups and governments began to tackle longer-term sustainable transport issues.

Amid increased media coverage of environmental issues in the late 1980s, environmentalism attracted support across class and political boundaries. As practices such as recycling became routine for a majority of Western Australians, the south-west forests became an increasingly prominent focus for environmental activism. Those opposed to clearfelling in old-growth forests argued that it was incompatible with the preservation of Indigenous, cultural, spiritual, heritage and ecological values, and limited the potential for more sustainable industries such as eco-tourism and beekeeping.

By 1995, opposition to clear-felling of native forests had increased to the extent that rallies in Perth were attracting 20,000 people. Meanwhile, protesters began to employ non-violent direct action, locking themselves to logging equipment, blockading logging roads, and occupying platforms in trees. Several were arrested, especially after Richard Court's coalition government prohibited unauthorised entry to certain forest blocks. Proactive legal action was also undertaken, often with support from the Environmental Defenders' Office (Inc.), established by a group of lawyers in 1995.

Public debate intensified in the lead-up to the 2001 state election. A new party—Liberals for Forests—was formed, and hundreds of professionals and business people protested under the banner of 'Men and Women in Suits'. With its promise to end logging in old-growth forests, the Labor party won the election in a landslide victory.

In the early twenty-first century, as nature-based tourism became increasingly popular, struggles to balance conservation and recreation in sensitive environments were epitomised by the conflict over a proposed marina adjacent to Ningaloo Marine Park. After a high-profile campaign involving lobbying, letter-writing and a gathering of thousands in Fremantle, the proposal was rejected by Premier Geoff Gallop in July 2003. Only three months later, however, another conservation campaign was lost when parliament approved a project involving construction of a gas processing plant on Barrow Island.

In a colony, and later state, with a strong ideological commitment to resource development, those seeking to protect the environment have fought hard to achieve their aims. Not all have succeeded, and rarely have successes been complete or permanent. Early gains in conservation were made largely where short-term economic interests were not significantly threatened. In the twenty-first century, when 'environment' has become a household word, entrenched interests and short-term thinking remain the most formidable barriers for environmentalists to overcome. **Andrea Gaynor**

See also: Anti-nuclear movement; Caves; Energy, renewable; Environment; Forestry; Land clearing; Landcare; National Parks; Pollution; Salinity; Sustainability; Timber industry; Tourism; Whaling

Further reading: P. Crawford and I. Crawford, *Contested country: a history of the Northcliffe area, Western Australia* (2003); A. Gaynor, M. Trinca and A. Haebich (eds), *Country: visions of land and people in Western Australia* (2002); B. Moore, 'Tourists, scientists and wilderness enthusiasts: early conservationists of the South West', in B. K. de Garis (ed.), *Portraits of the south west: Aborigines, women and the environment* (1993); G. E. Rundle, 'History of conservation reserves in the south-west of Western Australia', *Journal of the Royal Society of Western Australia*, 79, 4 (1996)

Constitution Western Australia's Constitution has been described as consisting of a 'confusing bundle of pamphlets and unbound pages'. Where the Constitution of the Commonwealth of Australia exists as a single document, the constitution in WA is located in two separate Acts of Parliament: the *Constitution Act 1889* (which itself required imperial legislative ratification in 1890) and the *Constitution Acts Amendment Act 1899*. In addition, constitutional provisions pertaining to the powers of the governor and the formation and functioning of the Executive Council are found in the Letters Patent; the Constitution itself has been modified by the operation of the various Australia Acts (British, federal and state) and is affected by elements of the common law; and there is an ongoing debate as to whether provisions of the 1907 *Western Australian Electoral Act* and other legislation might be deemed as constitutional. There are also implied constitutional conventions arising from the concept of responsible parliamentary government.

Historically, WA can be said to have its constitutional origin in an Imperial Act of 1829, which provided for 'the government of Her Majesty's settlement of WA on the west coast of New Holland'. In 1831 an Order in Council authorised the establishment of a Legislative Council and Executive Council

and the first appointments to each, including the governor and four of his officials, were made in 1832. Over the years between 1832 and 1867 a number of nominated non-official members and additional officials were added to the Legislative Council.

In 1850 the UK parliament passed the *Australian Constitutions Act* that 'may be regarded as the initial charter of self-government for the colonies'. This Act empowered those colonies that already had a Legislative Council with a majority of elected members to create constitutions providing for bicameral legislatures, and all five other colonies had acted on this authority by the end of the decade. WA, by contrast, had just begun receiving convicts, and under the terms of the 1850 Act was prevented initially from establishing a Legislative Council with elected members. Transportation ended in 1868 and an ordinance passed in 1870 enabled the inauguration of representative government in the form of an eighteen-member Legislative Council consisting of twelve members elected on a propertied franchise basis, three nominated non-officials and three officials from the Executive Council. Various additions were made to the membership of the Council over the next twenty years, though without significantly disturbing the two-thirds elected provision.

In 1889 the WA Legislative Council passed a Constitution Bill, subsequently ratified in London, which provided for a bicameral legislature and the constitutional basis for a system of responsible government in which the political members of the executive were responsible to the lower house of parliament. The Act, as proclaimed in the colony on 21 October 1890, provided for a fully elected Legislative Assembly and a Legislative Council, the latter initially nominated but from 1894 also fully elected though on a property franchise. Reforms during the 1890s included triennial parliaments, the payment of members, and moves towards the full adult franchise for the Legislative Assembly. Women

were granted the vote in 1899 but it was not until 1920 that they could be elected to the Western Australian parliament. Not until 1962 could Aboriginal people enrol and vote. Since 1965, adult franchise has applied also for Legislative Council elections, and since 1989 members of both houses are elected for four-year terms (fixed terms in the case of the Legislative Council). Broadly speaking, the WA Constitution can be amended by the WA parliament itself, subject to the approval of an absolute majority of the total membership of each House, in some matters affecting the constitution of parliament. Dating from 1978, however, under section 73 of the *Constitution Act*, a referendum is also required for amendments seeking to abolish or alter the office of Governor; abolish or reduce the size of either House of Parliament; or allow members in either House not 'chosen directly by the people'. From time to time proposals have been put forward to consolidate the Constitution into one Act, but as yet no progress has been made in this regard. **David Black**

See also: Aboriginal legislation; Citizenship, Aboriginal; Convicts; Electoral system; Female suffrage; Foundation and early settlement; Parliament; Politics and government; Section 70
Further reading: R. D. Lumb, *The constitutions of the Australian states* (1991); H. Phillips, D. Black, B. Bott and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998); C. Sharman, 'The Constitution of Western Australia 1890 and 1990', in D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991)

Constitutional Centre of Western Australia On 29 October 1997 the Constitutional Centre of Western Australia was opened by the state premier Richard Court. The state governor at the time was Major-General Michael Jeffrey and in his Australia Day 2005 address as governor-general, Jeffrey described the centre 'as a superb educational model where students and visitors learn how our political system evolved and works now, its relevance to them and the influence on governance they can have'. In response to documented public support, and a specific submission, *The Report of the Western Australian Constitutional Committee* (1994), chaired by Malcolm McCusker QC, had earlier recommended the establishment of the Centre. The state government of the time, led by Richard Court, keenly endorsed the concept. *The Royal Commission into Commercial Activities of Government and Other Matters* (1992), the *Commission on Government* (1996), and a host of national and state parliamentary and educational reports had drawn attention to the need for better civic education. Subsequently, the former Hale School site, near the parliament, was redesigned to house the new Centre, with Malcolm McCusker as the inaugural chair of the Advisory Board. As well as providing civic education for citizens about the state's constitution and the federal political system in the form of exhibitions, escorted tours (including the associated Electoral Education Centre) and other activities, the Centre provides strategic policy advice in this domain to the Premier. **Harry C. J. Phillips**

See also: Constitution; Electoral system; Politics and government
Further reading: M. McCusker, *The report of the Western Australian Constitutional Committee* (1995); H. Phillips, D. Black, B. Bott and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998)

Contact, non-European The earliest external contacts with north-western Australia are primarily associated with European trade by the Dutch and the English. Despite many

attempts to find convincing evidence of earlier external contacts prior to the seventeenth century, none has yet been found. Claims that the Chinese expeditions that reached Africa in the early fifteenth century, or the Portuguese navigation across the northern Indian Ocean and through the Indonesian archipelago in the sixteenth century, may have involved such contact are inherently improbable given the nature and purposes of such voyages.

After Tasman, the Dutch decided—correctly—that, for them, Australia and its Aboriginal people promised no useful trade. Though Dampier's activities, including visits to the North-West in 1688 and 1699, provoked further Dutch voyages of exploration, these went elsewhere.

Before the eighteenth century, local sailors within the Indonesian archipelago had no reason to visit the Australian coast. Then, the booming Chinese economy began to draw in many resources. A new product, for which Macassar in south Sulawesi became the main market, was trepang (bêche-de-mer or sea cucumber). This trade began in a small way in the 1720s, and by 1754 the Dutch could report: 'The Southland…is made now and then from Timor and Macassar, but produces so far [as] we know nothing but trepang… and wax.'

Cooking and drying trepang required convenient beaches. Most sites are in Arnhem Land, but there are also some on the Kimberley coast, which the men from Macassar knew as Kayu Jawa. Activity in the West was concentrated between Cape Londonderry and Cape Voltaire. The common features of these sites, both in this area and in Arnhem Land, indicate the size and particular nature of the industry. European sightings confirm this: in 1803 Baudin's expedition met a trepanging fleet from Macassar at Cassini Island. The relative lack of archaeological evidence further south suggests less trepanging activity there, though in 1865 seven vessels were seen near Camden Harbour, making ready to return home. This industry was much

smaller on the Kimberley coast than in the Northern Territory, and its cultural impact on Aboriginal people was consequently less. The most significant introduction was access to dugout canoes. In 1906 the Northern Territory industry was effectively prohibited and there is no evidence that the Kimberley branch was active after that date, or even for some time before.

From the late nineteenth century until today, contacts across the Timor Sea, and especially with the offshore islands and reefs, have been driven by short-term opportunities. From the 1880s until about 1930 a few pearling luggers based in Kupang worked in Australian waters. Through most of the twentieth century a wider range of maritime products, including trepang, trochus shell, shark fin, turtles and dried fish, have been sought. Landings on the coast supplied wood and water. Some of this activity has been an adjunct to pearling on luggers, but most has been in smaller local vessels from Roti or further afield, especially islands east of Madura and south-east of Sulawesi. The main market for various products has continued to be Macassar.

A 1974 agreement between Indonesia and Australia limited activities to 'traditional' boats working in a restricted offshore area, but the widespread change from sail to motor power and changing commercial needs have made this difficult to police. The flow of people who over recent decades have tried to enter Australia across the Timor Sea is a new development. With rare exceptions, these people are not Indonesians (except for some crews), but are fleeing very diverse situations far away. For them, too, the Kimberley coast has provided an uncertain welcome. **C. C. Macknight**

See also: British maritime exploration; Dutch maritime exploration; French maritime exploration; Shipwrecks; Vlamingh's journey
Further reading: I. Crawford, *We won the victory: Aborigines and outsiders on the*

north-west coast of the Kimberley (2001);
C. C. Macknight, *The voyage to Marege':
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(1976); M. J. Morwood and D. R. Hobbs,
'The Asian connection: preliminary report
on Indonesian trepang sites on the Kimber-
ley coast, N.W. Australia', *Archaeology in
Oceania*, 32 (1997); D. Dwyer, 'Fishers of
people: from reef fishing to refugees, the
changing role of Indonesian sailors and their
perahu at Ashmore Reef, North Australia', in
C. Fredericksen and I. Walters (eds), *Altered
States: material culture transformations in the
Arafura region* (2001)

Contraception and family planning Prac-
tices which attempt to limit or determine
the number of one's offspring long pre-date
modern, scientifically endorsed forms of con-
traception. Coitus interruptus (withdrawal),
sponges, plant extracts, ointments, other vagi-
nal barriers and goats' bladder condoms were
used in ancient and 'pre-modern' societies in
an effort to prevent pregnancy. Alongside the
'medicalised' contraception, first associated
with the development of cervical caps and
diaphragms in the nineteenth century, popu-
lar methods also included abstinence, oral or
anal intercourse, breastfeeding, application of
douches or sponges using household products
(soaps, oils, vinegars and other, sometimes
dangerous, chemicals), expulsion of semen
through violent coughing, sitting or standing
up after ejaculation. Other attempts to limit
family size included last resort 'options'
of abandonment, infanticide and illegal
abortion.

In 1903–04 the pro-natalist NSW Birth-
Rate Commission attributed a declining
birth rate to the 'new' women's flagrant
use of contraceptives and a reluctance to
dutifully populate (a 'white') Australia. It
has been suggested, however, that increased
accessibility of girls to elementary education
enhanced their 'oral literacy' and capacity
as adults to seek out and discuss issues

relating to health and family size more
effectively.

The introduction of the female-controlled
diaphragm in Australia in the 1920s, followed
by the Great Depression when marriage and
childbirth were delayed, contributed to a
declining birth rate until the 1940s. The social
and economic impetus of a post Second World
War 'baby boom' reversed this trend, with the
birth rate peaking at 3.6 children per family
by 1961. With the introduction of the oral
contraceptive pill in Australia the same year,
many (initially 'suitable' married) women
were able to choose the number and timing
of their children with unprecedented control.
Later marriage, increased workforce participa-
tion and education, and changing perceptions
about 'costs' associated with child rearing are
also seen as contributing to the decline of the
birth rate until the present day.

At the beginning of the twenty-first
century, the contraceptive pill remains the
most popular form of temporary contracep-
tion for all women under forty years, while
condoms are also often utilised by teenage
and young women seeking protection from
both unplanned pregnancy and sexually
transmitted infections (STIs). Larger numbers
of older women, especially those residing in
rural and remote areas, opt for permanent
contraceptive protection such as sterilisation
through tubal ligation, hysterectomy or a part-
ner's vasectomy. Other options include IUDs
(intra-uterine devices), hormonal implants or
injections and 'safe period' methods such as
the 'Billings method'.

In 1968 the Roman Catholic encycli-
cal *Humanae Vitae* prohibited all forms of
'artificial' birth control for Roman Catholics
while endorsing periodic abstinence or
'natural' family planning rhythm and calen-
dar methods. In practice, however, access to
health information and services, rather than
religious affiliation, continues to determine
the actual use of various forms of contra-
ception within Western Australia's Roman
Catholic population.

Although abortion, with some restrictions, is safe, legally available and accessible in all Australian jurisdictions, termination of pregnancy re-emerges periodically as a contentious issue related to religious, cultural and ethical debates and the importance of sex and reproductive health education.

In 1971 the WA government established a state-funded family planning organisation (FPA/WA), which enabled access to contraceptive and other sexual advice for women and men. The renamed 'FPWA', a vocal supporter of the Davenport Bill that resulted in the removal of abortion from criminal statutes in 1998, continues to provide a broad spectrum of sexual health services, information and training in WA. **Della Foxglove**

See also: Abortion; Birth; Infanticide
Further reading: P. Mein Smith, *Mothers and King Baby. Infant Survival and Welfare in an Imperial World: Australia 1880–1950* (1997); S. Siedlecky and D. Wyndham, *Populate and Perish: Australian Women's Fight for Birth Control* (1990)

Convict discipline and punishment
Convict discipline at Fremantle Prison was a profoundly militarised conception of order, obedience and punishment. The intended outcome was the reformation of transported convicts. While this discipline was supposed to radiate from Fremantle to and through all its convicts depots, the depots had fewer facilities and staff to supervise discipline. Fremantle Prison's strict discipline was almost entirely absent in road party gangs because such gangs were often supervised by only one warder, although any errant road party convicts were punished with a return to Fremantle Prison. The punishments that were available to the various prison superintendents, depot overseers and their staff during 1850 to 1868 remained unchanged.

While there were no new punishments added, there was a significant increase in the frequency and intensity of their infliction from the late 1850s onwards. This change was the product of both the policies of certain Fremantle Prison superintendents and of a shift in the Imperial Government's conception of effective punishment. In Britain in the late 1850s the already harsh official attitude to convict punishment was significantly hardened. Convict diets were lessened, hard labour was made more arduous, and the time convicts would serve under strict ticket-of-leave regulations and the time in which they would be eligible for a conditional pardon was lengthened courtesy of the 1857 *Penal Servitude Act*. These imperial measures were meted out to convicts in Western Australia too. Fremantle Prison superintendent Thomas Hill Dixon took Maconochie's famous marks system, used in Van Diemen's Land, and produced a simplified version for use at Fremantle Prison. Under Dixon's system, convicts whose work was 'effective' were awarded the most marks and therefore had their time in prison reduced, while convicts whose work was deemed 'non-effective' had their time in prison lengthened until they were 'effective' workers too. Dixon superintended the temporary and permanent Fremantle prisons from 1850 to 1859, but the latter was not completed until 1859, the same year in which Dixon was ignominiously dismissed. Dixon's punitive system thus existed in temporary and incomplete prisons. Nonetheless, Dixon's system was harsh and he routinely exceeded his legal authority in his administration, and, to a lesser extent, his punitive system too.

Henry Maxwell Lefroy had been Dixon's deputy for five years, and on 7 April 1859 he replaced Dixon. Lefroy retained Dixon's one punishment gang (absconder class) and added two more (iron and stringent classes). Stringent class had to clean ashpits and privies (toilets) and undertake any other 'dirty or disagreeable' work that could be found. Stringent-class convicts were also the only convicts to be worked under armed guards,

who were ordered to fire upon any convict attempting escape.

In February 1862 Governor John Stephen Hampton arrived. He and Lefroy subsequently oversaw an unprecedented increase in all punishments, most notably solitary confinement with punishment (bread and water) diet. Under Hampton and Lefroy the flogging of convicts also reached its peak, although all governors during Western Australia's convict period were quick to flog convicts. In fact, governors Fitzgerald, Kennedy and Hampton flogged their convicts with a degree of severity that was greatly in excess of that applied to the convicts of New South Wales during the 1830s. After 1868, flogging markedly declined because more efficient methods of control were found. A convict being flogged could make a hero of himself by showing the convict audience that he could take his flogging without complaint; while the absence of an audience for punishment diet or solitary confinement in a dark cell made this a more effective alternative.

Transportation ceased in 1868. By 1871 all convict depots were closed, and by 1878 there were hundreds of empty cells in Fremantle Prison. The remaining small convict population was mostly comprised of re-convicted convicts, the inevitable casualties of a system of reformation applied without regard to the human cost. **P. R. Millett**

See also: Convict labour; Convict legacy; Convicts, conditional pardon; Convicts, ticket of leave; Convicts, white-collar; Fenians; Fremantle Prison; Pensioner Guards
Further reading: M. Bosworth, *Convict Fremantle* (2004); P. R. Millett, '"[A] mild but firm system of discipline": British convicts and their punishment in Western Australia, 1850–1886', PhD thesis, UWA (2003); J. E. Thomas and A. Stewart, *Imprisonment in Western Australia: evolution, theory and practice* (1978); M. Trinca, 'Controlling places: a history of spatial intent in Western Australian

convictism', in J. Gregory (ed.), *Historical traces: Studies in WA History*, 17 (1997)

Convict labour made a major contribution to the progress and prosperity of Western Australia; however, this varied across the colony and throughout the convict period. For most of the 1850s, convict labour, often supervised by officers of the Royal Engineers, was utilised in the construction of buildings for the Convict Establishment itself. However, there were never enough tradesmen with building skills, even though 38 per cent of the convicts were artisans. Further, the convict workforce was not stable, as many ticket-of-leave men were quickly snapped up by private employers, and could not be replaced until the next shipload of convicts arrived, which sometimes took over a year. As a result the demand for free labour continued, and skilled free men began to profit from Convict Establishment contracts in areas such as masonry and carpentry.

The initial impact of convict labour was most clearly seen in Fremantle, with the construction of the Prison between 1852 and 1859 and other buildings for the Convict Establishment, including quarters for warders, Pensioner Guards, Royal Sappers and Miners, and prison officers. Wider benefits were also readily obvious to Fremantle residents, as rubble collected from the prison site was used as fill to improve the surfaces of the streets and to construct North Bay Jetty, which, on its completion in 1856, enabled steamers to run between Fremantle and Perth.

At the same time, a network of convict-hiring depots and settlements was gradually established by convict labour across the southern part of the colony. The main depots were built at North Fremantle, Freshwater Bay, Clarence, Guildford and Greenmount, with hiring stations located further afield at Toodyay, York, Bunbury, King George Sound and Port Gregory, as well as Mount Eliza. By 1854, convict labour had improved roads from Fremantle to Perth, Guildford to Toodyay and

Perth to Albany, and bridges and culverts had also been built, thus vastly improving transport and communication across the colony.

In Perth the Colonial Hospital was completed in 1853 by convict labour, while the following year the convict-built Perth Boys' School opened. Perth Gaol and Courthouse was completed in 1854. Convict labour was also utilised in draining the lakes from Murray Street northwards, which had been a source of severe flooding in Perth during the 1840s.

The appointment of Governor Hampton in 1862 resulted in a big increase in convict employment on public works. Hampton was adamant that all public works should be carried out by the Convict Establishment. Four major building projects using convict labour were completed during his governorship: Government House (1864), Fremantle Lunatic Asylum (1865), the Pensioners' Barracks (1866), and Perth Town Hall (1870). The colony's transport and communication systems also received a boost with the construction of a new Perth Causeway, opened to traffic in 1865 (the old one having been destroyed in a flood in 1862), and the building of jetties at Albany, Geraldton

Convict road workers, Barrack Street. c. 1869–70. Note Perth Town Hall under construction in background. Courtesy Fremantle Prison (21421P)

and Busselton. The North Fremantle Bridge across the Swan River, completed in 1866, meant that Fremantle and Perth were now connected by road.

By the time transportation ceased in 1868, the colony of WA was a very different place. It is estimated that, as well as the many buildings constructed by convict labour, fifty bridges, 1,100 miles of road, five large jetties along the coast and harbour facilities had been built by the convicts. These provided a much-needed boost to trade and commerce. Communication was greatly improved. Although the Convict Establishment continued to exist until 1886, convict depots were gradually closed from 1872 and the remaining convicts concentrated in Fremantle. **Norman Megahey**

See also: Barracks Arch; Convict discipline and punishment; Convict labour; Convict legacy; Convicts; Fremantle Prison; Infrastructure and public works; Jetties; Pensioner Guards

Further reading: A. Hasluck, *Unwilling emigrants* (1978); J. S. H. Le Page, *Building a state* (1986); C. T. Stannage, *The people of Perth* (1979)

Convict legacy Thanks to the relative lateness of the convict period in Western Australia (the last convict died in the early 1930s), the absence of convict women, the more serious nature of the offences, and Western Australia's relatively rigid social structure and lack of economic opportunity, convictism was largely 'forgotten' until the early 1980s. Unlike eastern Australia, where the nationalist romanticisation of the convict period began in the 1920s, in WA it continued to be a source of shame for those of convict descent and its memory was suppressed. Only the American journalist W. B. Kimberly (1897) provided a useful account of the era. The orthodox twentieth-century view, reflecting the attitudes of the settler

elite who had called for the introduction of convicts, was that they were a necessary evil but had thankfully 'faded away' into colonial society without leaving any harmful influence. In 1923, when the State Archives Board was formed to preserve government records, it was even suggested that convict records be destroyed. Although this did not occur, access was at the discretion of the Archivist and official convict records were inaccessible to those who could not demonstrate convict descent. Only the Irish Fenian escapee, John Boyle O'Reilly, and the Houdini-like Joseph Bolitho Johns ('Moondyne Joe'), continued to be subjects of popular interest.

This self-induced amnesia about the convicts began to break down in the late 1950s when Alexandra Hasluck's *Unwilling Emigrants* (1959) provided the first comprehensive account of the convict system. Not long after this, Premier David Brand made convict ancestry more acceptable when he publicly disclosed his own convict background. By the late 1970s increasing genealogical interest and the realisation that microfilmed convict records, transferred from Britain to Australia as part of the Australian Government Joint Copying Project, were available in all State Libraries made a mockery of the mantle of secrecy over convict records in WA. Nevertheless, the compilation of a convict volume of the *Dictionary of Western Australian Biography* (1979; 1992) by Rica Erickson was not taken lightly, for many still believed that the convict past was best forgotten. A burst of academic interest at The University of Western Australia produced special editions of *Studies in WA History* (1981) and *Westerly* (1985) devoted to the convict theme, together with work on convict demography. At the popular level, Rica Erickson produced a collection of convict biographies and politician Phillip Pendal wrote about his convict ancestry. Academic research on the convict period lessened after the 1980s and detailed investigation still needs to be done on the dispersal of ex-convicts to the eastern colonies, their patterns of employment, marriage, residence and mortality and their social and political influence. In July 1998 the decommissioned Fremantle Prison initiated an annual Foundation Day ceremony at which those who could prove their convict ancestry received an appropriate certificate (details of the original offence being discreetly omitted). At the 2002 ceremony, Premier Geoff Gallop spoke proudly of his own convict ancestor. And in 2004, interest in receiving these certificates even led to the falsification of family histories.

Little has survived in the way of any anti-authoritarian convict sub-culture of songs, stories and social attitudes comparable with that of the eastern colonies. Nevertheless, attitudes to the police were coloured by a tradition of antagonism kept alive by the challenge—'bond or free?'—issued when constables enforced the night curfew for ticket-of-leave men on the streets of Fremantle. The size of the ex-convict population was an obstacle to the gaining of responsible government, and in country areas the old social barriers between bond and free survived for many decades.

The material legacy of the convict era is substantial. In Fremantle, the Convict Commissariat (now part of the Maritime Museum), the Prison, the Boys' Grammar School and the Asylum (now Fremantle Arts Centre) have been carefully preserved, together with some limestone walls. In Perth, the Pensioners' Barracks, Town Hall and Government House were built with convict labour. In up-country districts where convict road gangs were employed, less survives of the barracks and depots that they built. **Bob Reece**

See also: Barracks Arch; Convict labour; Convict ships; Convicts; Convicts, travellers' writings; Fenians; Fremantle Prison
Further reading: M. Bosworth, *Convict Fremantle: a place of promise and punishment* (2004); R. Erickson (ed.), *The Brand*

on his coat: biographies of some Western Australian convicts (1983); R. Erickson and G. O'Mara, *Convicts in Western Australia, 1850–1887* (1992); A. Hasluck, *Unwilling emigrants: a study of the convict period in Western Australia* (1959); J. Sherriff and A. Brake (eds), *Building a colony: the convict legacy: Studies in WA History*, 24 (2006); C. T. Stannage (ed.), *Convictism in Western Australia: Studies in WA History,* 4 (1981); C. T. Stannage, *The people of Perth* (1979)

Convict ships The *Scindian* was the first of six barques chartered by the British Admiralty to convey convicts to the Swan River colony. After 1851 larger fast frigates were also commissioned as transports, many sailing direct to the colony without having to reprovision. Clippers were used as transports from 1863. They were longer, sleeker, faster and more stable than earlier transports. The *Corona* was the largest, carrying 310 convicts, more than any other transport, and making the voyage in record time of only 67 days.

In 1843, following a royal commission, the Admiralty placed supervising surgeons in charge of medical services on transports and the duties of the captains were reduced to commanding the ship and the order and discipline of officers and crew. Surgeons were responsible for the convicts, the chaplain, warders, pensioner guards, schoolmasters, their families and other passengers. The presence of surgeons-superintendent improved health on the transports. They were required to write a comprehensive journal reporting sickness, misbehaviour, discipline, education, occupation and religious activities on board. These reports, together with various practical measures and monetary incentives of up to ten shillings for the safe arrival of each convict, dramatically reduced mortality rates on transports.

Convicts were organised into messes of eight, each with a mess captain who supervised the distribution of rations, cooking and cleaning procedures. On some transports convicts selected their mess captains. Convicts who performed higher duties well would receive up to eighteen months off their probation period in the colony until 1863, after which their reward was reduced to three or four weeks. Those supervising more basic tasks received extra allowances of tea or wine.

Fresh fruit, vegetables and meat were only available for a week or two after leaving Britain or the Cape, after which dried, salted or canned foods soon became monotonous and water was strictly rationed. Breakfast was a pint of oat gruel and dinner was a thin broth made from salted pork or beef and dried peas, followed by a suet pudding with currants. Tea was usually a pint of hot chocolate with ten ounces of ship biscuits, called 'hard tack'.

Prisoners were kept occupied sewing prison jackets and trousers and knitting stockings. Illiterate convicts attended classes where they were taught basic arithmetic and reading and writing using appropriate verses from the Bible, supervised by the schoolmaster and literate convict monitors. They were marshalled on the upper deck for religious services taken by the chaplain who also presided over a library of uplifting moral stories. Educated prisoners were encouraged to give lectures, hold evening concerts and produce weekly newspapers such as the *Stag Gazette*, *Norwoodiana* and *The Wild Goose*.

On twenty-four of the forty-three transports there were no deaths, but on most of the other transports there were one to three deaths, mainly from typhus, cholera, scurvy or other contagious illnesses. Five convicts died on the *Corona,* nine on the *Robert Small*, probably due to putrefying ballast that emitted stifling gases, and ten on the *Phoebe Dunbar*, probably from scurvy. In all, forty-six convicts are thought to have died on the transports.

Despite all the rules and regulations, the presence of cannons (or religions men) on

the poop, a visible triangle for occasional floggings, there were three mutinies: on the *Nile*, the *York* and the *Corona*. Mutiny plans were aborted on the *Racehorse* and *Hougoumont.* There were also instances of deviant sexual behaviour, lewd language and profanity, fighting, bullying and stealing recorded in Surgeon's journals. Convicts were disciplined by floggings of up to forty-eight lashes; being forced to stand in small, dark, stuffy sweatboxes for hours; being fed only bread and water; and by leg ironing.

In comparison with their counterparts transported to the eastern colonies, Swan River-bound convicts experienced shorter, safer voyages with lower mortality rates and fewer disciplinary problems. **Sandra Potter**

See also: Convict discipline and punishment; Convict labour; Convict ships (appendix), Convicts, white-collar; Pensioner Guards
Further reading: C. Bateson, *The convict ships: 1787–1868* (1974); A. Brooke and D. Brandon, *Bound for Botany Bay* (2005); R. Erickson (ed.), *The brand on his coat* (1983)

Convicts Debate about whether or not to receive British convicts in Western Australia began in the 1830s, but markedly increased in the latter half of the 1840s. The Colonial Office kept an interested eye on this debate because it needed and actively sought a colony that would accept British convicts. As WA had received convicted juveniles from Parkhurst Prison since 1842, and as New South Wales had ceased receiving convicts since 1840, it was hoped that WA might decide to receive more convicts. In 1845 the WA York Agricultural Society—a strong and influential advocate of pastoralists' interests—petitioned the Legislative Council to agree to convicts being sent to WA, but this petition was unanimously rejected. However, by 1847 the number of pastoralists in the Legislative Council had increased, and in 1848 the acting Governor,

Irwin, who was openly opposed to convict transportation, made way for Governor Fitzgerald, who was plainly in favour of it. Also in favour of convict transportation were merchants like George Shenton (snr), Lionel Samson, Philip Marmion and Robert Habgood, brewers like J. G. C. Carr and James Stokes, and many of the farmers of York, like William Burges. The supporters of the pro-convict position comprised an 'extremely influential lobby group', their ranks including 'the wealthiest men in the colony' as well as Governor Fitzgerald. The arrival of cheap convict labour, it was thought, would boost the local economy and alleviate a general labour shortage, but the colonial economy had recovered long before convicts arrived and the labour shortage was not widespread, although pastoralists felt a keen shortage of shepherds that reduced the profitability of growing wool, which was a principal export at that time. The York Agricultural Society argued that while convict labour would greatly aid their industry, there would also be positive economic flow-on effects for the entire colonial economy. The pro-convict lobby was successful, and between 1850 and 1868 Britain transported almost ten thousand convicts to WA. (Historians cannot agree over the exact number because of inconsistencies in record-keeping. The most authoritative estimates are: Battye, 9,721; Taylor, 9,670; and Crowley, 9,968.)

All convicts were male. The British government, on two occasions, attempted to persuade colonists to accept female convicts, but colonist and governor alike emphatically refused both proposals. The ethnicity of the transported convicts was, with decreasing frequency, English, Irish, Scottish and Welsh. A small handful of convicts were described by prison officials as 'm[e]n of color [sic]'. Most of the convicts sent to WA were single males aged between fifteen and twenty-four years and most of them were convicted in London or the Home Counties (Kent, Surrey, Sussex and Middlesex). The majority of these

convicts were drawn from urbanised rather than rural counties.

The convict system in WA was entirely different to those that had operated in NSW and Van Diemen's Land (after 1853 called Tasmania). Britain's convict ships deposited 90,000 convicts in NSW between 1788 and 1840 and 60,000 convicts in Van Diemen's Land between 1803 and 1853. WA received just over six per cent of all convicts sent to the Australian colonies. The larger eastern convict systems were organised around private assignment while the WA system was organised around its main prison. Therefore, Western Australian convicts were worked and punished quite differently. In NSW and Van Diemen's Land convicts were generally assigned to private masters and mistresses who met the costs of feeding, clothing and housing their unpaid convict servants. In WA, and for the last thirteen years of the Van Diemonian system too, there was no assignment because private masters or mistresses had to employ their convicts. Secondary punishment in both eastern penal colonies was inflicted in remote sites like Port Arthur, Norfolk Island and Macquarie Harbour, but in WA all primary and secondary punishment was delivered within the walls of Fremantle Prison. This grew out of a profound philosophical shift in official British attitudes to punishment. Britain's dark and filthy jails of 1788, in which convicts were dumped to await the hour of a subsequent fate, had by 1850 become the light and clean prisons of a new punitive age. This new age aspired to the scientific key of convict reformation because to find such a key would make British society much stronger. To this end, a relentless and militarised discipline was created that regulated everything convicts did and said. This discipline also increased their punishment until they changed not only their criminal behaviour but also their 'immoral' thoughts.

Convict labour, often supervised by officers of the Royal Engineers, was used on public projects such as the construction and repair of roads, bridges and jetties. It was estimated that convict labour constructed fifty bridges, 1,100 miles of road and five large jetties along the coast. Convict labour also erected many buildings necessary to the maintenance of convict transportation, such as the temporary and permanent prisons, the lunatic asylum, the Commissariat store and the residence of the Comptroller General of Convicts (the Knowle). These public projects were undertaken by convicts who were still serving time or by ticket-of-leave convicts who were unable to secure private employment. Privately employed ticket-of-leave convicts found work in a variety of fields, but most were restricted to unskilled or semi-skilled employment as shepherds, timber workers, farmhands and labourers. Between one-fifth and one-quarter of the convicts transported to WA had no specific employment skills, but a small number of convicts were sufficiently educated to find work as clerks or teachers.

Convict transportation to WA was a tremendous success for those who employed convicts and/or were able to access some of the £1.8 million the British Treasury spent in the colony between 1850 and 1868. The convict ships en route to WA were successful too in that they provided the safest journeys ever to any Australian penal colony, although it was at the cost of dramatically increased discipline and punishment in those ships. How successful the convict system was in the reformation of its convict subjects has remained uncertain, because reconviction statistics are not complete and the number of convicts that departed WA has also remained imprecise. Some convicts, like Daniel Connor, John Acton Wroth and James Fleming, owned much property, created public careers and gained the respect of their fellow colonists. Most, however, did not attain great wealth and many of them regarded transportation as a death sentence because they would be forever separated from their loved

ones. John Boyle O'Reilly's famous escape and subsequent success in the USA was an atypical experience, as was Moondyne Joe's taunting of prison officials with his persistent escapes.

Transportation to WA ended because the other Australian colonies, especially South Australia and Victoria, made it plain to the British government that they were entirely unhappy with the situation and that damaged relations would result if transportation continued. Convicts transported to WA, it was claimed, departed as soon as they could for the convict-free colonies of South Australia and Victoria. Britain was unwilling to continue transportation if it gave profound offence to every other Australian colony. In 1865 the Secretary of State announced that transportation to WA would end in three years. The *Hougoumont*, the last convict ship, arrived in 1868, but by that time the new punitive age with its emphasis on new prisons and convict reformation had usurped the importance of transportation. Since the early 1840s Britain had been at work on building a national prison system. By 1865, convict prison disciplinary policy was determined centrally; and by 1867 Britain had a system of nine convict prisons and no further need of transportation. **P. R. Millett**

See also: Barracks Arch; Convict discipline and punishment; Convict labour; Convict legacy; Convict ships (appendix); Convicts, conditional pardon; Convicts, ticket of leave; Convicts, travellers' writings; Convicts, white-collar; Fenians; Fremantle Prison; Parkhurst convicts; Pensioner Guards

Further reading: A. W. Gill, *Convict assignment in Western Australia: the Parkhurst 'apprentices', 1842–1851* (2004); S. Taylor, 'Who were the convicts? A statistical analysis of the convicts arriving in Western Australia in 1850/51, 1861/62 and 1866/68', in C. T. Stannage (ed.), *Convictism in Western Australia: Studies in WA History*, 4 (1981)

Convicts, conditional pardon A well-behaved convict who had served approximately half his sentence on probation and then on ticket of leave received a conditional pardon. Up to 1857 the ticket-of-leave man was also required to repay approximately half the cost of his passage to the colony before he was granted the pardon. This requirement was abolished, partly because of claims that it inflated the wages demanded by ticket-of-leave convicts, and partly because large numbers of convicts simply refused to pay.

Released from the restrictions of ticket of leave, a conditional-pardon convict could move about freely without reporting to magistrates, stay out after the curfew (10 p.m.), work for whom he chose, marry, own a gun and demand trial by jury at the Quarter Sessions. Since the cost of such a trial and any subsequent imprisonment fell on the Colonial as opposed to the Imperial government, it proved a very controversial right. Within six months of his arrival, Governor Kennedy argued that conditional pardons should be abolished and that all convicts should remain on ticket of leave until the expiry of their sentences. Kennedy initiated legislation to prohibit conditional-pardon convicts from holding liquor licences, but this was refused assent by the Colonial Office.

Kennedy was also worried about conditional pardon convicts being able, through acquiring property, to be eligible to serve on juries. The Colonial Office warned Kennedy that he could not bar conditional-pardon convicts from jury service because of their legal status, but if he chose to amend the qualifications of the jurors in some other way, that was quite appropriate.

A conditional pardon also allowed the convict to leave WA as long as he did not return to Britain during the term of his sentence. South Australia and Victoria both alleged that during the 1850s large numbers of conditional-pardon convicts left Western Australia travelling east. Neither the precise number who left, nor their destinations, will

ever be known because no consistent records were kept. Despite a lack of evidence, South Australia (1858), Victoria (1854–55), New Zealand (1863), the Cape of Good Hope (1860) and Tasmania (1859) all passed Convict Prevention Acts with the specific purpose of preventing the landing of conditional-pardon convicts on their shores.

After some resistance, the Colonial Office bowed to the newly democratic colonies and abolished the offending section of the conditional pardon. From 1 January 1864 all convicts arriving in Western Australia received (after a ticket of leave) a 'conditional release' that gave them all the 'freedoms' of a conditional pardon except permission to leave the colony prior to the expiry of their entire sentence. **Andrew Gill**

See also: Convict discipline and punishment; Convict labour; Convict legacy; Convicts; Convicts, ticket of leave; Convicts, white-collar; Fenians; Fremantle Prison

Convicts, ticket of leave A ticket of leave was a licence for a convict to be at liberty, but the liberty it afforded was strictly regulated. A convict became eligible for a ticket of leave if he was an Imperial convict, not a local one, who had not been re-convicted in WA and who had served his minimum period of imprisonment, which was 'adjusted according to his behaviour'. Most convicts received their tickets this way, but from 1850 to 1857 some convicts received their tickets of leave upon arrival in WA. These tickets were either granted by British prison authorities or were the result of recommendations of convict-ship surgeons-superintendent. A convict granted a ticket of leave left Fremantle Prison with a liberty kit (prison made and/or issued clothes, blankets and rations) and sought private employment. Unemployed ticket-of-leave holders were returned to one of the many convict-hiring depots and there they laboured on public works projects.

All ticket-of-leave holders were governed by ticket of leave regulations. While these regulations were revised several times, every set of regulations from 1850 to 1902 assigned each ticket-of-leave holder a district outside of which they were not permitted to live or work without written official permission. Further, regulations decreed that all charges against ticket-of-leave holders be heard summarily, that all sentences be served cumulatively, and that the governor could revoke a ticket for any kind of immoral conduct. Ticket-of-leave holders were also subject to curfew: after 10 p.m. no ticket-of-leave holder was permitted in any public space.

These strict regulations resulted in many ticket-of-leave holders being returned to Fremantle Prison for minor offences. In the hope of correcting this, in 1862 the system was extended to re-convicted convicts. If ticket of leave holders were able to avoid re-conviction, unemployment and immorality, they were awarded a conditional pardon. **P. R. Millett**

See also: Convict discipline and punishment; Convict labour; Convict ships (appendix); Convicts, conditional pardon; Convicts, white-collar; Fremantle Prison; Parkhurst convicts; Pensioner Guards
Further Reading: R. Erickson (ed.), *The brand on his coat: biographies of some Western Australian convicts* (1983); P. R. Millett, '"[A] mild but firm system of discipline": British convicts and their punishment in Western Australia, 1850–1886', PhD thesis, UWA (2003)

Convicts, travellers' writings The Fremantle Convict Establishment excited a debate within the Australian colonies as well as in London. Issues canvassed included the alleged benefits to the Swan River colony: the increase of population both free and bond; burgeoning prosperity for merchants and farmers; and an improved labour force. Cited

against these gains were the losses incurred by the presence of felons. They were seen as a necessary but unfortunate addition to colonial life, especially since their low wages militated against free labourers who were thought to be leaving the colony in great numbers.

Visitors to the colony from 1850 onwards were inclined to express strong opinions about these matters. In 1855 Frederick Mackie, a Quaker who was visiting the colonies in order to cheer like-minded individuals by reminding them of home and by attending their meetings, was particularly interested in the penal system. Quakers were among the forefront of prison reformers. In 1865 journalist Howard Willoughby was unimpressed with Fremantle: 'a dreary, withered-looking place. It seems more like some unfortunate settlement of the previous century, now decaying away, than the entrance to a British colony of the present era'. He thought Western Australia a 'giant skeleton of a colony'. Anthony Trollope, visiting in 1872, wrote rather more amusingly, 'An ingenious but sarcastic Yankee, when asked what he thought of Western Australia, declared it was the best country he had ever seen to run through an hour-glass'. The visitors recognised colonial poverty when they saw it. Had convict labour improved matters? Trollope certainly noted that everywhere, 'the convict element pervades the colony.'

Frederick Mackie and his travelling companion gained access to the convicts only after convincing Comptroller General Captain Edmund Henderson that they had been welcomed at Port Arthur. Some 400 convicts and warders attended their meeting. Mackie was favourably impressed by the schooling and the extensive library available to the convicts, but was mindful that hopes for the colony's future lay with these men's labour. He noted that their interest in hard work was questionable and that many had already left the colony.

Willoughby, who campaigned against the continuance of transportation, was also disparaging. He thought expirees would always be regarded as convicts. Since they could not take their place in society, if they did not leave, they frequently drank themselves to death. He asked three questions: was the convict system penal, was it reformatory, and was it economical? To each of these, he answered no. In his opinion the convict was not punished by his exile because he enjoyed a large degree of freedom to work and to make his own way. The convict was not necessarily reformed since statistics showed that far more were re-convicted in the colony than were free men. The system was not economical because it had cost the Imperial government much more than the officials were inclined to reveal.

Trollope found Fremantle Prison ugly, former inmates worn out and uninteresting and the colony desperate for more investment. Convicts had not solved the economic problems of distance from markets, poor soils and slow progress. Moreover, their individual successes did not really outweigh the social disadvantages of their pervasive influence. He noted colonists thinking of the next rescue attempt. 'It is the opinion of many that nothing but gold can turn the scale, can bring joy out of despondency, can fill the land with towns, and crowd the streets with people.'

By 1872 the old debate about crime, punishment and colonial populations had moved on. In WA a new debate was beginning about the futures both of the Convict Establishment and of those men still under sentence who were ageing, becoming invalids or incorrigible offenders. **Michal Bosworth**

See also: Convict legacy; Convicts; Foundation and early settlement; Fremantle; Fremantle Prison

Further reading: F. Mackie, edited by M. Nicholls, *Traveller under concern: the Quaker journals of Frederick Mackie on his tour of the Australasian colonies, 1852–1855* (1973); A. Trollope, *South Australia and*

Western Australia (1875); H. Willoughby, *Transportation. The British convict in Western Australia: a visit to the Swan River settlements* (1865)

Convicts, white-collar Approximately four per cent of the convicts transported to Western Australia were literate, apparently 'respectable' white-collar offenders from British middle-class society. Their non-violent crimes were connected with illegal documentation, usually written by them in the course of their occupation. These men obtained goods, services or finance by forging and uttering cheques, bills of exchange, money orders, promissory notes or bank notes; embezzlement by using power of attorney connected with wills and land transactions, false orders and receipts, and transfer of stocks or shares; and by fraudulent actions such as scuttling vessels to claim insurance payouts. For misappropriating money or goods worth from a few pounds to £263,000, their sentences ranged from penal servitude of six years to life.

For them, additional punishments included a sudden drop in living standards, lack of privacy, association with rough habitual criminals during hard labour, poor career prospects and social stigma upon release. This category of prisoner generally adapted well to imprisonment in time, and many responded to good conduct incentives and gained 'billets' which offset Home Government incarceration costs. Rather than hard labour, they worked in prison reception areas, in clerical positions, as medical dispensers, hospital orderlies, school monitors and chaplain assistants, mess supervisors on the transports, as constables and in the Commissariat in Swan River colony. By performing these duties diligently, many earned remission of probation time before receiving their ticket of leave.

For some, ill health, inadequate family or settler support, irregularity of work, crop failures, floods, fires or drought affecting businesses, economic recessions and a lack of social acceptance, contributed to their alcoholism, reconvictions, periods in the Poorhouse, Invalid Depots, Fremantle Asylum, or suicide. However, others reformed, gained 'respectability', prospered and made valuable contributions to trade and society in the areas of teaching, food and wool production, transport, medicine, journalism, engineering, merchandising, clerical, accounting, communication and mining. They also supported various churches and charities and were employed on committees for little or no remuneration by Agricultural Societies, local Road Boards, Municipal Councils and Education Boards and Working Men's Associations, while participating in various literary and musical pursuits in the colony.

A number who regained respectability became prominent citizens. Superintendent of Telegraphs James Fleming was ultimately responsible for connecting WA with the eastern colonies and Europe. William Beresford and James Elphinstone Roe were two of the three convict co-editors of the radical *Fremantle Herald* newspaper between 1867 and 1886. Beresford championed the poor and uneducated, while Roe advocated many educational reforms, implemented in the *Elementary Schools Act* in 1871. Alfred Letch was a Perth merchant, business entrepreneur, church organist and pianist, who was elected a Perth City Councillor between 1875 and 1880. Lionel Holdsworth became a prosperous property developer and a member of the prestigious Scotch College Council from 1897 to 1901. **Sandra Potter**

See also: Convict labour; Convict legacy; Convicts; Convicts, conditional pardon; Convicts, ticket of leave; Fenians; Fremantle Prison
Further reading: R. Erickson (ed.), *The brand on his coat: biographies of some Western Australian convicts* (1983)

Coolbaroo League The Coolbaroo League (1946–c.1965) began operations in Nyoongar country in Perth, and soon spread to a number of outlying regional towns. Coolbaroo, a word for 'magpie', was suggested by returned Yamatji servicemen Jack and Bill Poland and came to represent a message of reconciliation, of black and white coming together.

The Coolbaroo League was an Aboriginal-controlled community organisation or club that operated in Perth and the South-West of Western Australia. The League was responsible for running the 'Westralian Aborigine' newspaper; and was active in lobbying the state government on issues such as the removal of children, citizenship laws, deaths in custody and repealing the worst elements of the then 1944 *Aboriginal Citizenship Act*, the 1936 *Native Administration Act*, and eventually the 1954 *Native Welfare Act*. One focus was the Perth Prohibited Area, gazetted in 1927 by the then Chief Protector of Aborigines, A. O. Neville, under the 1905 *Aborigines Act*. Aboriginal people were prohibited within this area bounding the Perth Central Business District, what is now Northbridge and much of East Perth after 6 p.m. at night unless previous permission had been granted under a permit system. Originally beginning with the popular weekly community dances that centred around East Perth, just outside the Prohibited Area, the Coolbaroo League was instrumental in overturning this discriminatory practice through lobbying state parliament and the public in the lead-up to the creation of the 1954 *Native Welfare Act.*

Instigated by Helena Clarke, a Nor'wester from Port Hedland who became a founding member of the Coolbaroo League, the organisation was eventually run by key Aboriginal leadership with engagement from elders such as William Bodney, Thomas Bropho and Bertha Isaacs, as well as younger leaders such as Manfred Corunna, George Abdullah, and George Harwood. Bill Bodney was originally a member of the Native Union, formed by Nyoongar leaders in 1928 to protest against the treatment of their people under the 1905 Act. Thomas Bropho was a Nor'wester who married into the Nyoongar community and was a regular speaker and orator at rallies on the Perth Esplanade. Younger leaders such as Corunna, Abdullah and Harwood were part of a generational shift of leaders who engaged the government directly through working in Aboriginal Affairs as well as through grass-roots movements. All of these leaders later became instrumental in the creation of the Aboriginal Advancement Council.

Various community members relate the closure of the league to the creation of the Aboriginal Advancement Council in 1965, while others suggest that the league continued on with small functions into the late 1960s.

Around this time, groups such as the Native Welfare Council, a federation of interested non-Indigenous organisations, church groups and interested non-Indigenous individuals, were engaged by Indigenous leaders in an attempt to increase influence over policy affecting Indigenous people and to inform the wider public. The result, however, was that much of the strength of the League's original stance as an Indigenous-led organisation was diluted within this larger arena, and in later years this would lead to the Advancement Council taking up the original stance of the Coolbaroo League in advocating Aboriginal control of Aboriginal organisations.

Until the mid 1960s, when many Aboriginal members of the Coolbaroo League were absorbed into the Native Welfare Council, a white ameliorative alliance, the Coolbaroo League could be considered as the most advanced and effective Aboriginal organisation of its kind in WA. **Steve Kinnane**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal legislation; Aboriginal music; Aboriginal theatre
Further reading: B. Attwood, *The struggle for Aboriginal rights: a documentary history*

(1999); P. Biskup, *Not slaves, not citizens: the Aboriginal problem in Western Australia 1898–1954* (1973); A. Haebich, *For their own good: Aborigines and government in the southwest of Western Australia, 1900–1940* (1992); S. Kinnane, *Shadow lines* (2003)

Coolgardie Exhibition The Coolgardie International Exhibition (March–July 1899) was a display of the latest achievements of mining, industry and agriculture. London's Great Crystal Palace Exhibition of 1851 was the first of a series of such events. Housed in purpose-built buildings, the Coolgardie Exhibition celebrated the prosperity which the discovery of gold had brought to the colony; thus the exhibition of the latest mining machinery was the centrepiece of the displays. Celebratory arches were constructed for the opening ceremonies, and musical performances brought forth the talents of the culturally diverse goldfields. Between March and June there were also swimming carnivals, tug o' war competitions, spelling bees, eisteddfods, stone throwing, weight lifting and wrestling contests. Souvenirs of the exhibition included silver commemorative medals, rose glass tumblers and silk programs.

Agricultural exhibits also displayed technology from Britain and around Australia: machinery, pest and weed controls, and preserved goods suitable for areas remote from fresh food supplies. There were local produce displays from York and the southwest districts, a jarrah exhibit, and industry exhibitions for small prospecting concerns. The exhibition drew wide colonial support yet it failed to attract much international or inter-colonial interest, as much for reasons of worldwide economic depression as the remoteness of the location. The buildings were intended for a Mining School, which was not opened until November 1902 and lasted only a year, as Kalgoorlie became the larger centre for goldfields industry and commerce. **Lynne Eastoe**

See also: Eastern Goldfields
Further reading: L. Stevenson, 'The Coolgardie International Exhibition, 1899', in L. Layman and C. T. Stannage (eds), *Celebrations: Studies in WA History*, 10 (1989)

Cossack was the first successfully settled port in the North-West; an earlier settlement at Camden Harbour had failed. Following F. T. Gregory's exploration (1861), Walter Padbury and John Wellard set out in 1863 in two vessels, *Mystery* and *Tsien Tsin,* with stock to establish a station. They eventually selected a bay (which they named Tsien Tsin) near the present townsite as suitable for landing. W. Shakespeare Hall, Wellard's manager, built a temporary house for Wellard at the future site of Cossack. The Withnell family arrived in 1864 and, in the following year, Robert Sholl, who had been at the failed Camden site, was appointed government resident. The nearby townsite of Roebourne was declared in 1866. In 1869 a jetty was built in the inlet and the survey of town lots began. When Governor Weld visited the site in late 1871 there were several stores and dwellings and a population of 75 Europeans, 350 Aborigines, and a few Malays. Ten pearling luggers were operating from the harbour. In 1872 the townsite was gazetted and named Cossack after the vessel used by Governor Weld.

The town expanded rapidly as the pastoral and pearling industries developed, and with the opening of copper and lead mines in the district and the discovery of gold. Population estimates are contradictory, but between 1881 and 1891 the population, comprising Europeans, Asians and Aboriginal people, evidently ranged from about two hundred to three hundred people. Many buildings in the town were built of local stone and roofs were tied down by wire cables to resist damaging cyclones. Those built during the 1890s included a school house, police barracks, Customs House, Courthouse and Mining

Registrar's Quarters, some of which survive and have been restored.

A lazaret (leprosarium) was on an island in the delta of the inlet from 1913 until 1931, when the inmates were moved to a new lazaret in Darwin.

The town declined rapidly in the early twentieth century due to the movement of the pearling industry further north and decline in mining. The municipalities of Cossack and Roebourne were dissolved in 1910, and by the 1930s only ten buildings remained. The town was abandoned in the 1950s. It is now a heritage site; and conservation and management is the responsibility of the Shire of Roebourne. **David Hutchison**

See also: Bungarun; Exploration, land; Gold; Pearling
Further reading: S-J. Hunt, *Spinifex and hessian: women's lives in north-western Australia, 1860–1900* (1986); W. L. Owen, *Cossack gold: the chronicles of an early goldfields warden* (1984)

Country (National) Party The Country Party was formed in WA in 1913 as the political arm of the Farmers and Settlers Association, established a year earlier to protect the economic interests of farmers, particularly wheat farmers. Success came quickly in 1914 with the election of two Country Party candidates to the Legislative Council and eight to the Legislative Assembly (all but one at the expense of the Liberals), followed by successes in two House of Representatives electorates in 1919. It was the first such party to contest parliamentary elections in Australia and was, in this respect, several years ahead of similar parties in other states. Party policies concentrated on improved rural services, decentralisation and planned land settlement, emphasising the importance of primary production to the state's economy and progress. The new political party benefited from a strong regional electoral base in the Wheatbelt, unity of interest and a vigorous agrarian ideology. It relied for its party organisation on the Farmers and Settlers Association (after 1920, the Primary Producers' Association). The electoral system favoured the new party: single member constituencies suited its regional support base, state electoral weighting in favour of the rural vote increased the number of electorates it could win, the Legislative Council's property franchise gave it a strong voice in that House, and preferential voting eliminated the danger of splitting the non-Labor vote. The Country Party established itself as a permanent and powerful third party in state politics, the party of the Wheatbelt.

After a year's flirtation with the strategy of operating as a centre party exchanging support for concessions, the party settled into the role of an anti-Labor party, forming coalition governments with the Liberal and National Labor parties in 1917, the Nationalist Party in 1930 and the Liberal Party from 1947. In the years to 1924 the party struggled to maintain its separate identity in government and the organisation struggled to achieve some control over its parliamentarians. In 1923 the organisation split from its representatives in the Mitchell ministry with unity re-established only after the party went into opposition. It settled into steady operation in the mid 1920s and benefited from the effective parliamentary leadership of Charles Latham (1930–42) followed by Arthur Watts (1942–62). Representing wheat/sheep farmers and the communities of the Wheatbelt, the party effectively promoted agricultural expansion, orderly marketing of agricultural commodities, and the provision of government services to rural areas. At the zenith of its power in these years, the party achieved equal cabinet representation in the coalition governments of 1930–33 and 1947–50. From 1930 to 1950 it held ten to thirteen seats in the fifty-member Legislative Assembly and was the larger of the two opposition parties during the Labor governments of 1933–47.

Party structure was transformed in 1944 by the Primary Producers' Association's decision to sever its political ties in order to achieve amalgamation with the more radical and militant Wheatgrowers' Union to form a new, single industrial organisation to represent farmers' interests, the Farmers' Union. The party renamed itself the Country and Democratic League and quickly rebuilt its organisation, this time as a completely independent entity.

In the second half of the twentieth century the party lost political strength primarily as a result of rural population decline (vis-à-vis the metropolitan area and regional towns), a smaller rural workforce and the state's abandonment of agricultural land settlement as its major tool of economic progress. The party's power base shrank with successive electoral redistributions. The post-war party also faced an invigorated Liberal Party, which rose to political ascendancy by the early 1960s and did not accept the necessity for a second non-Labor party. Its attitude was one of 'fuse or fight'. When a plan for party amalgamation failed in 1949, the Liberals resolved to form government in their own right and campaigned fiercely to win Country Party electorates. Coalition tensions intensified with the ascension of Charles Court to Liberal leadership in 1972 and to the premiership in 1974, culminating in the Country Party's withdrawal from coalition in 1975 after disagreements on agricultural marketing policy. A semblance of non-Labor unity was quickly restored with a new, more conservative parliamentary party leadership re-entering coalition after two weeks on Liberal terms. In this period of the mid 1970s the party was in turmoil as it cast round for a solution to its electoral decline and diminished power in coalition, and for an effective answer to Liberal dynamism. It initiated an ill-fated and short-lived merger with the Democratic Labor Party to form the National Alliance in 1974. A name change to the National Country Party followed in 1975 in an endeavour to widen its voter appeal. Electoral decline accelerated. Legislative Assembly representation halved from a post-war high of twelve in 1947 to six in 1974, and in the Legislative Council from eight (1950–62 and 1965–70) to four in 1977. Its ministerial representation fell to two in a cabinet of thirteen in 1977. By 1977 the Party had no federal parliamentary representatives. Longstanding tensions between its more conservative and militant members, the latter demanding that the party take an independent third-party stance in coalition or on the cross-bench, culminated in a split in 1978. Two parties—the National Party and the National Country Party—claimed legitimacy. Reunification did not occur until 1985 when the Party regained stability (with six representatives in the Legislative Assembly and three in the Legislative Council) under the effective parliamentary leadership of Hendy Cowan. It joined again in coalition with the Liberals led by Richard Court from 1993 to 2001, maintaining its policy focus on agriculture, transport and rural services. Campaigning for Royalties for Regions under the leadership of Brendon Grylls, the Nationals won the balance of power at the 2008 election, the first based on 'one vote one value'. In a centrist strategy of negotiation with both major parties, the Nationals finally agreed to support the Liberals in return for a spending commitment of 25 per cent of state royalties in the regions. The Nationals had made a successful start on their new objective of representing all of regional WA.

Lenore Layman

See also: Liberal Party; Parliament; Politics and government

Further reading: D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991); L. Layman, 'The Country Party: rise and decline' in R. Pervan and C. Sharman (eds), *Essays on Western Australian politics* (1979); L. Layman, 'Decline and Division in the

WA Country Party', *Politics*, XVI, 1 (1981); H. Phillips, D. Black, B. Bolt and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998)

Country Women's Association A self-funded organisation without political or religious affiliations, the Country Women's Association (CWA) was first formed in NSW in 1922 to improve conditions for women and children in rural and remote areas. Subsequently each state and the Northern Territory formed an association, with the CWA of Western Australia founded in 1924. The first WA branch was established in Nungarin and was still operating in 2005. In 1945 a meeting of all CWA state presidents agreed to form a national body, the CWA of Australia. A lobby group of government and non-government bodies, the CWA provides input into policy on areas including communication, health, welfare and education. As rural populations have declined, the CWA membership, along with its political influence, has diminished. In 2005 its total Australian membership was 44,000.

The 'Land Girls' scheme was an important CWA initiative during the Second World War. Pre-dating the Australian Women's Land Army, the scheme enabled women to work on farms to fill the void left as country men joined the armed forces. Through the war years the CWA knitted socks and balaclavas for the troops.

Dame Raigh Roe (born 1922), a member of the CWA of WA during its most influential years, joined when she was eighteen, moving from Branch President to WA State President and then to National President. In 1977 she was elected World President of the Associated Country Women of the World (ACWW), representing almost nine million women in seventy-four countries. In the same year she was named Australian of the Year.

In 2005 CWA sold the Perth-based 'CWA House', first opened in 1968, to move their headquarters to a smaller city building. Around the state CWA owns holiday cottages, three retirement units and eighty-three CWA Centres—small halls where local branches meet.

Many Western Australians know of the CWA through their *C.W.A. Cookery Book and Household Hints*, which was first published in 1936 and remains in print. The CWA's official journal is *The Countrywoman of Western Australia* (1934–). **Virginia Rowland**

See also: Women on farms; Women's Land Army
Further reading: R. Erickson, B. Gibbings, L. Higgins (comps), *Her name is woman* (1974); B. Kelly et al. (comps), *A continuing story* (1999)

Courts of Native Affairs were established in 1936 by the state's *Native Administration Act*. These courts dealt with Aboriginal people charged with murder, manslaughter and assaults where both the victim and the defendant were 'natives' according to the Act. No other state or territory implemented such a system. Dozens of cases were heard between 1936 and 1954, when the Courts were abolished with the focus in administration of Aboriginal affairs changing to assimilation.

In spite of the serious nature of the charges and potential penalties these cases were not reported in the official Western Australian law reports. Further, these Courts only provided Aboriginal people with a semblance of the justice prevailing in other courts. Supreme Court judges were replaced by a bench of two people comprising a local magistrate (frequently someone with no legal qualifications) and an Aboriginal Protector, the nominee of the Chief Protector of Aborigines. Lawyers were not specifically excluded but rarely appeared, even though these hearings involved capital charges. Defendants were to be present and

were routinely represented by employees of the Department of Native Affairs, 'native hospital' orderlies or Protectors. No plea of guilty was to be accepted unless approved by a Protector. Wives were not to be called to give evidence against their tribal husbands. An Aboriginal headman could be used to assist the bench but the appointment process was arbitrary. Though confessions made by defendants to police were legally inadmissible, this provision was breached regularly with the bench sometimes specifically relying upon such confessions to convict.

Errors in law or sentence were remedied by administrative and executive intervention and appeals were abolished. Juries were also abolished as, pursuant to the Regulations, trials were to be conducted as 'summary hearings'. No legal challenge was ever launched against this denial of a jury trial on indictment for capital charges.

Contrary to some commentary, a number of death penalties were imposed although all were commuted. The Courts could impose a sentence of ten years or less if the offence was due to cultural strictures, even for murder charges. In Broome in 1948 three co-defendants (all represented by one hospital orderly) were sentenced to death but reprieved. In Wyndham in 1945 one defendant, represented by a hospital orderly, was sentenced to death by a bench comprising the local magistrate/doctor and a local publican: an invalid penalty as the charge was manslaughter, not murder. A pardon was granted but the defendant was exiled for escaping from the cells. Terms of imprisonment ranged from months to, in one instance, twenty-five years. Some defendants were placed on good-behaviour bonds and some were exiled to other parts of the state.

Right up to 1954 when the Act was amended and these Courts abolished, Aboriginal witnesses were brought in with defendants and kept in cells to ensure their attendance at the hearings. **Kate Auty**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal Legal Service; Aboriginal legislation; Customary law; Law
Further reading: K. Auty, *Black Glass. The Western Australian Courts of Native Affairs 1936–54* (2005); E. Eggleston, *Fear Favour or Affection: Aborigines and the Criminal Law in Victoria, South Australia and Western Australia* (1976)

Craft practitioners are primarily found in the disciplines of ceramics, textiles, jewellery, wood and glass. Although Western Australia has had a continuum of artist-craftspeople, two periods were prominent: 1900–14 and the 1970s and 1980s, both eras of international craft revival. The first resulted when the 1890s gold rushes attracted a flood of immigrants. Some joined the WA Society of Arts and/or studied at Perth Technical School. They were part of the Domestic Art Movement, engaged in metalwork, leatherwork, art-needlework, woodcarving, pokerwork, leadlight and china painting, making items to beautify the home.

The second period bloomed after the mineral boom of the 1960s when similar opportunities presented. In the 1960s it was enough to make a well-crafted object. In the 1970s a well-designed object was valued, but personal expression began to be emphasised. Many left the object behind in the next decade, occasioning a crisis of confidence and loss of identity in craft disciplines. At the beginning of the 1990s 'design' became the catchword, and this bias strengthened into the twenty-first century until craftspeople are now described as designer-makers.

The best-known name of the first period was the painter James W. R. Linton, who took up crafts in 1904 in order to teach his students. He made a national name for himself with his exquisite jewellery and silverwork. Gordon Holdsworth, silversmith, painter and

printmaker, was another who made a national name. His spectacular ecclesiastical metalwork is found in many Anglican churches. Linton's student Flora Le Cornu (Mrs Landells) was a painter, china painter, teacher and pioneer of studio pottery in Australia. Others who arrived in this first period included painters of wildflowers and china Helen and May Creeth, who had trained in London and taught in Perth.

Following the First World War, Jamie Linton, son of James, became a full-time artist, going on to become Australia's best known silversmith in the 1940s. He and Flora Landells dominated the craft scene until the 1960s. Her students included Amy Harvey and Marina Shaw.

The period after the Second World War was one of change from the stringencies of war to boom and plenty. Weaver Marie Miller built up a network of clients across Australia, continuing until the 1980s. Potter Eileen Keys was included in the *Australian and New Zealand Ceramics* exhibition, which toured the state galleries in 1963–64. From 1960, painter-turned-jeweller Geoffrey Allen developed an international reputation. Teachers of note were Francis Kotai and Meg Sheen, whose many dilettante pottery students included Robert Bell and Joan Campbell, who went on to exhibit internationally in the 1970s.

By the 1960s and 1970s many people sought personal satisfaction from making objects by hand. They were part of a worldwide craft revival—a revolt against mass production. The major difference between this and previous revivals, however, was a supporting structure. The Craft Council of Australia, established in 1964, and the Craft Association of WA, established in 1968, provided contacts at regular international conferences, directed touring exhibitions, and brought master-craftspeople from interstate and abroad. This, plus media interest, helped promote crafts and resulted in the establishment of a network of galleries. Federal and state government instrumentalities to assist the arts were also set up: the Australia Council for the Arts in 1968, the Craft Board of the Australia Council in 1973, and the Arts Council of WA c. 1973. Their funding was crucial to development, assisting some to make the transition from hobby to professional practice. Eric Car, one of the most forceful members of the craft movement in this period, was one who made a very successful change to a career as a silversmith.

The mineral boom of the 1960s and 1970s helped generate substantial building in Perth. Stained-glass artists and woodworkers furnished chapels from 1960. Weavings were in demand to provide warmth and acoustic absorption in modern buildings. Large organic architectural hangings evolved into more conceptual work in the late 1970s: a shift from pleasure in handwork to designing for a living. It was facilitated by the introduction of professional art and design classes at the WA Institute of Technology in 1968 under Englishman Tony Russell. David Walker, an influential teacher, was head of crafts from 1974–96. Professional potters were taught at Perth Technical College.

Individuals, some armed with a personal vision judged uniquely Western Australian, confidently joined the international circuit. Exhibitions were toured overseas from the 1970s and invitations came to artists to show at prestigious international exhibitions, be included in international books, be featured in television documentaries and take solo exhibitions overseas. Export continues to be a necessity as the local population cannot support the careers of the many talented practitioners resident in the state. Artist-craftspeople who show regularly on the international stage include Dorothy Erickson, David Walker, Felicity Peters, Pippin Drysdale, Tanija and Graham Carr, Sandra Black, Greg Collins, Pamela Gaunt, Anne Farren, and recent graduate Holly Grace. **Dorothy Erickson**

See also: Art education; Design and designers
Further reading: G. Cochrane, *The crafts movement in Australia: a history* (1992); D. Erickson (ed.), *Art & design in Western Australia: Perth Technical College 1900–2000* (2000); A. Schofield and K. Fahy, *Australian jewellery: 19th and early 20th Century* (1990)

Cricket was soon played in most centres following Perth's first recorded match in 1835. But isolation and poor pitches meant that when eastern Australia and England inaugurated Test cricket in the 1870s and 1880s, round-arm and under-arm bowling were still common in the West and matting-on-concrete pitches the only true batting surfaces. WA was the only colony not invited to the meeting in 1892 that saw New South Wales, Victoria and South Australia inaugurate the Sheffield Shield competition. The outstanding local team had been an Aboriginal one from New Norcia, but it was from among its regularly defeated opponents that members of the colonial elite emerged to form the Western Australian Cricket Association (WACA) in 1885. Four years later, supported by the Commissioner of Crown Lands, John Forrest, it extracted a 999-year lease of 14 waterlogged acres from Governor Broome. With much reclamation work ahead before the WACA Ground could stage cricket, the first intercolonial contests came on a tour to South Australia and Victoria in 1893, during which WACA honorary secretary F. D. North proved himself the colony's leading batsman. No less important to cricket's future was North's ten-year career from 1891 as secretary to Premier Forrest, who granted an extra five acres to the WACA in 1897.

The Forrest government's greatest assistance, however, came indirectly through the development of Fremantle Harbour. Even in 1897 George Giffen's Australian XI had to disembark at Albany for the first major tour of the colony, playing local teams of eighteen and twenty-two. Thereafter, increased accessibility through Fremantle raised standards through interstate matches at the WACA Ground and Fremantle Oval against South Australia (1899, 1906 and 1909), the Melbourne Cricket Club (1903), New South Wales (1907), Victoria (1910), the Australian XI en route to England (1912) and England's MCC (1907 and 1908). In 1912 WA also played two matches in each of Adelaide, Melbourne and Sydney. Although it lost five and drew nine matches from 1899 to 1912, four victories included one against each of the three Sheffield Shield states. While recent arrivals Ernie Jones, South Australia's Test fast bowler, and former Victorian all-rounder Arthur Christian were prominent, even more outstanding were local bowler Bobby Selk and batsman Ernie Parker, the first Western Australian picked for a representative match, playing for the Rest against Australia in 1909. But the promise of these years before the First World War gave way to stagnation afterwards.

The WACA survived crises in 1907 and 1912 only by hosting other sports, especially football and, most lucratively, harness-racing, a tenant from 1913 until 1929 when the WA Trotting Association opened its own track on land bought from the WACA. This transaction saved the organisation when cricket alone could not. Ernie Bromley had to move to Victoria to become the first WA-born Test player, confirming the limitations of a state that would eventually suffer twenty-three first-class defeats in the inter-war years, manage nineteen draws and not a single victory. Crowds above ten thousand watching Don Bradman in 1932 and 1940 showed that this record was more important than the Depression in explaining low attendances. So did the first ever match between English and WA women's teams in 1934, which attracted larger numbers than the WA men playing an Australian XI a year later.

Against that background only the influential Bradman could ensure inclusion in the postwar Sheffield Shield competition. In doing so he devised a much-resented plan that admitted the state on a half-time basis in 1947 but required it to subsidise the travel costs of interstate opponents. It became a full-time participant in 1956, with the subsidy phased out over the next decade. After winning the Shield in its inaugural season the state team waited until 1967–68 for a second success. But eleven more Shields and eight one-day national trophies established WA ascendancy in the next three decades.

It was 1956 before the first locally based Western Australian played Test cricket, but over the next forty years thirty-six others followed John Rutherford, among the most famous the fast bowlers Dennis Lillee and Graham McKenzie, batsman Kim Hughes and wicketkeeper Rodney Marsh. Just as important to the state team's success was strong leadership from captains Barry Shepherd and Englishman Tony Lock in the 1950s and 1960s, John Inverarity in the 1970s and Graeme Wood in the 1980s. While the team was less dominant in the later 1990s and early 2000s, notable international representatives included locally raised Tom Moody, Justin Langer and Damien Martyn and wicketkeeper/batsman Adam Gilchrist, originally from New South Wales.

The WACA ground staged its first Test Match in 1970 against England and, after others in 1974 and 1975, became an annual venue from 1977–78. It was, however, the arrival of AFL football in 1987 and its departure in 2000 that prompted two major ground redevelopments. Despite a strong grassroots district competition, Western Australian cricket was heavily dependent in the early 2000s on commercial sponsorship and grants from its national parent, Cricket Australia. A recent trend in the early 2000s was belated recognition of women's cricket. The large crowd for the women's match in 1934 had not started a trend. Mocking references to players who looked like women, 'with no black beards among them, no preposterous big feet', suggested patronising newspaper attitudes that largely ignored women players for decades. Even though Western Australia's Zoe Goss was the country's most famous woman player, it was late in the 1990s before the Western Fury state team was playing at the WACA Ground. But this was a prelude to WACA and government financial support in 2003 of a state coordinator to promote all levels of the women's game. **Anthony J. Barker**

See also: Sport, Aboriginal people
Further reading: A. J. Barker, *The WACA: an Australian cricket success story* (1998); J. Pollard, *Australian cricket: the game and the players* (1988)

Croatians make up the largest south-eastern European migrant community in Western Australia. The 2006 Australian census recorded 5,164 Croatian-born persons and 15,598 persons of Croatian ancestry in Western Australia (about 10 per cent of the total Australian number). Croatian is Western Australia's second most widely spoken European community language. Although 'Croatians' have migrated to WA since the 1850s, those who arrived before the 1996 census were recorded as 'Austrians', 'Slavs', 'Italians', 'Dalmatians' and 'Yugoslavs' because Croatia became an independent country only in 1991. Emigration has been a well-established Croatian social pattern for more than a century, facilitated by the tradition of seafaring and the proximity of the prosperous West. Chain migration has been a major medium for Croatians arriving in WA.

The earliest arrivals were Dalmatian seamen on foreign ships. Then, a number of impoverished Dalmatian peasants arrived in WA during the 1890s and worked as woodcutters or in mines around Kalgoorlie and Boulder. In 1912

they founded the first Croatian association in Australia—the 'Croatian Slavonic Society' in Boulder. On the eve of the First World War, many settled in Spearwood, the Swan Valley, Fremantle and Osborne Park. About 600 non-naturalised WA Croatians were interned during the First World War as enemy aliens and almost 500 of them were deported in 1919. The introduction of immigration quotas in the US in 1924 severely limited the intake of Southern Europeans and thus directed more Croatians to Australia, and mostly to WA, where the majority of Australian Croatians lived before the Second World War. In 1934, in the wake of the Great Depression, Croatians were targeted in violent riots against Italians and Slavs in Kalgoorlie and some of them moved out of that area. It is estimated that in the late 1930s the number of Croatians in WA was approaching 3,000.

While Croatia was part of Yugoslavia (1918–91), Croatians accounted for a majority of the Yugoslav intake in Australia, followed by Macedonians and Serbs, who also arrived in large numbers. Pre Second World War arrivals established market gardens, fruit orchards and vineyards in Spearwood, Stirling and the Swan Valley; others were woodcutters, fishermen, builders and stonemasons. After 1945 Croatians arrived in WA in three waves: as political refugees ('Displaced Persons'); 'economic' migrants, mainly from coastal rural areas in the sixties and seventies; and urban migrants with vocational or professional skills after 1985. Many people from the largest sixties/seventies wave settled in the Cockburn area. With the arrival of a considerable number of professionals since the late 1980s the pattern of residential concentration ceased, though nowadays most Croatia-born persons still live in the Cockburn area, Stirling and Swan.

With the immigration of the recent professional cohort, and the social mobility of the second generation, the Croatian community profile has been changing from a typical working-class community to one with a more salient presence in sport, media, politics and business. Croatians in WA have an active community life and a number of ethnic clubs, churches, sport and cultural associations. Some Croatians have congregated around Dalmatian and Yugoslav clubs. The largest Croatian club and Croatian Catholic Centre was established in the early 1970s in North Fremantle and a Croatian ethnic radio program started broadcasting in the late 1970s, before Croatia became an independent country, as part of the quest of Australian Croatians for a separate ethnic identity and secession from communist Yugoslavia. **Val Colic-Peisker**

See also: Internment; Migration; Refugees; South-eastern Europeans
Further reading: V. Colic-Peisker, *Split lives: Croatian Australian stories* (2004); V. Colic-Peisker, 'Ethnics and cosmopolitans: Croatians in Western Australia', in R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004); N. Smoje, 'Croatians in Western Australia', in J. Jupp (ed.) *The Australian people: an encyclopedia of the nation, its people and their origins* (2001)

Curtin University of Technology, which takes its name from wartime Prime Minister John Curtin, began life in 1987, building upon prior institutions with almost a century of history. Its chief antecedents were the Perth Technical College (established 1900), WA School of Mines (1902, incorporating Western Australia's first regional museum in 1907), the Muresk Institute of Agriculture (1926), and the WA Institute of Technology (WAIT, 1967). The new university was located at WAIT in Bentley on the site of a pine forest planted in the 1930s. Professor Don Watts, who led the transition from Institute to University status, became Curtin's first Vice-Chancellor. The successful merger to create this new university became the

model for the controversial higher education restructuring undertaken by education minister John Dawkins during the Hawke federal government in the early 1990s.

By the mid 1990s enrolments exceeded 20,000, positioning Curtin among the largest universities in Australia, and as the most diverse in WA. It has teaching and research programs in Humanities, Engineering, Sciences, Resources, Health and Business. It interprets 'technology' in the words of WAIT's first Director, Dr Haydn Williams: 'the application of creative thinking and ingenuity to the solution of definable and practical problems in all fields of human endeavour'.

Curtin's second Vice-Chancellor, Professor John Maloney, oversaw an ambitious building program. The John Curtin Gallery, one of Western Australia's best-equipped museum facilities and specialising in contemporary art, and the John Curtin Prime Ministerial Library, the first such collection in Australia, both opened in 1998. By 2000 Curtin's radio station (subsequently migrated to FM) was claiming the largest audience of any Australian community broadcaster.

Curtin's high international profile and numerous overseas partnerships were reinforced under Professor Lance Twomey (Vice-Chancellor, 1998–2006). The main campus in the Perth inner suburb of Bentley has a multicultural student body, and a campus was established in 1999 in Miri (Sarawak, Malaysia). Curtin has various regional outposts within WA, including the Centre for Wine Excellence at Margaret River, opened in 2004. There is a strong commitment to professional development and Distance Education, including through part-ownership of the national online course provider Open University Australia.

The university identifies strongly with the persona of John Curtin, articulating his values as 'vision, leadership, and community service'. In partnership with the National Trust of Australia (WA), the university

manages John Curtin's House (1924) in Cottesloe, the former private residence of the Curtin family, where restoration work began in 2003. **David Dolan**

See also: Edith Cowan University; Murdoch University; Muresk Institute of Agriculture; National Trust of Australia (WA); School of Mines; University of Notre Dame Australia; University of Western Australia
Further reading: M. A. White, *WAIT to Curtin: a history of the Western Australian Institute of Technology* (1996)

Customary law Prior to British colonisation, all Aboriginal communities lived under their own system of customary law. Customary law defined explicit social rules, referred to as the Law. An integral element of communities' customary law was 'traditional punishment'. The primary role that traditional punishment played within communities was to provide a sense of reconciliation between the offender, the victim's family and the wider community. Often, after an offence had been committed, tensions would run high until the offender was punished. Although all Aboriginal communities were varied and discrete, common breaches of the Law that attracted traditional punishment included: violent offences such as homicide, non-fatal physical assaults and insults; property offences such as theft and destruction; social offences such as incest and wrong-way skin liaisons, adultery, abduction or enticement of women; and cultural offences such as an unauthorised person being in possession of unauthorised sacred knowledge or objects. The punishment handed out for non-fatal offences included abuse or 'shaming', as well as ceremonial beatings to the offender by nulla nullas or clubs. The traditional penalty for fatal offences was death by spearing in a formal community ceremony.

The decision by authorities at the time of British occupation to regard the new colony

as settled, rather than conquered or ceded, resulted in the general body of British law being applied to Aboriginal people. In 1836 the British government's Colonial Office directed colonial governors to prosecute crimes by one Aboriginal person against another Aboriginal person. This immediately created the situation, which still exists today for many traditional Aboriginal people, where an Aboriginal person who is obliged to live by his or her community's Law will in many cases be punished twice for the one offence. A further consequence of the directive from the Colonial Office was that the people who handed out the punishment of death by spearing were, from time to time, prosecuted for murder. In response to English law, eventually all Aboriginal communities ceased killing by spearing for fatal offences and, instead, wounding by spearing in a formal community ceremony became the punishment for fatal offences. In contemporary times it is rare for those who hand out the punishment to be arrested. The policy of the police and the Department of Public Prosecutions has been to acknowledge traditional punishment and, to a certain degree, tolerate it.

In the last thirty years the courts in Western Australia have, in most cases, acknowledged traditional punishment as a significant mitigating factor. This is based on the legal sentencing factor that all material facts, including those that exist only because of an offender's membership of an ethnic group, are to be taken into account. The courts are very concerned that the purported traditional punishment not be simply a physical assault on the defendant by aggrieved family members of the victim's family. Normally, an elder from the defendant's community is required to give evidence that the punishment was followed according to the community's Law.
Brett Farmer

See also: Aboriginal culture and society; Aboriginal legislation; Courts of Native Affairs

Further reading: E. Eggleston, 'Aborigines and the administration of justice: a critical analysis of the criminal law to Aborigines', PhD thesis, Monash University (1970); M. J. Meggitt, *Desert people: a study of the Walbiri Aborigines of Central Australia* (1974); New South Wales Law Reform Commission, *Sentencing: Aboriginal offenders* (2000); B. Swanton (ed.), *Aborigines & criminal justice* (1984)

Cycling, sport Affordability of the bicycle opened new vistas for all ranks of society in terms of leisure and utility in the late nineteenth century, while the health benefits associated with 'muscular Christianity' saw the development of recreational opportunities and a sport that appealed to thousands. In the 1930s, the Depression years, cycling carnivals brought welcome entertainment to spectators and relief for many racing cyclists who found generous prize and appearance money more attractive than idleness. Out of the ranks came a number of Australian champions, though because of distance from the main centres of activity it wasn't until the 1960s that local cyclists began to make their mark on the world stage. Steele Bishop was the first WA world cycling champion, winning the Professional 5,000 metres Track Pursuit title in Zurich in 1983, followed a year later by Robert Waller who became world junior points-score champion. The construction of the indoor track at the Speed Dome, Midvale, home to the 1997 World Track Championships, enhanced rider performance, contributing to world titles being taken out by Darren Hill (1995), Peter Dawson (1999, 2000 and 2003), Ryan Bayley (2000 and 2001), and the latter's superb performance at the Athens Olympics in 2004 when he took out two individual gold medals in the sprint and the keirin events. In the sphere of road racing, Henk Vogels reigns as one of Australia's great road cyclists, after winning stage places in the

Tour de France. While the heyday for cycling succumbed to the attraction of motorised transport after the 1950s, cycling is enjoying a revival today, as commuters and leisure riders recognise the benefits in terms of healthier lifestyle. Organisations such as the West Australian Cycling Federation, BMX and Mountain Bike Associations and the Cycling Tourist Club reflect this expansion in the sporting and leisure sphere, while the social Over 55's Club and the racing West Coast Masters Cycling Council cater for the fastest growing category of cyclists in the state. Cycling still traces its path to the 1890s, when thousands of spectators and eager bookies took odds on their cycling heroes at various meets in the goldfields, and the Westral track handicap, first run in 1896, has, apart from the two world wars, continued to be run annually.

Since the 1980s, awareness of cycling needs, including facilities in the workplace and safety issues, have been the focus of the Bicycle Transport Alliance, an organisation comprised of individuals and representative cycling bodies. Advocacy of cycling issues has subsequently been the focus of various government agencies, including the Department of Transport and Infrastructure. Pressure from these bodies has seen the growth of a large network of cycle paths in the metropolitan and surrounding areas, resulting in an increase of bicycle commuters and leisure cyclists. During the last few years, Conservation and Land Management, with support from the Munda Biddi Trail Foundation, has commenced construction of a mountain bike cycle trail from Mundaring to Albany, while the National Trust of Australia is involved in converting old rail lines to cycling trails. **Mel Davies**

See also: Cycling, transport; Western Australian Olympic Medallists (appendix)
Further reading: J. Fitzpatrick, *The bicycle and the bush: Man and machine in rural Australia* (1980)

Cycling, transport Invention of the Safety Cycle in 1885 and pneumatic tyre in 1888 provided a cheap and convenient mode of transport at the time Western Australia experienced the 1890s gold rush. Versatile on untracked country the bicycle proved a boon to prospectors, shearers and professionals such as doctors and ministers of religion, while messenger and 'express' delivery services, sometimes involving relays of riders, sped up communication. Having the advantage of not requiring fuel or feed, the bicycle proved invaluable to boundary riders who inspected and repaired the rabbit-proof fence, while similar inspection and repair teams covered the Kalgoorlie water pipeline up to 1962. Showing the potential of the bicycle, Arthur Richardson was the first to cross the Nullarbor in 1896, riding from Coolgardie to Adelaide in thirty-one days. He later answered the 'call' when, along with other WA bushmen cyclists, he joined a cycling brigade in the Boer War, providing

On the track WA c. 1890s. In the scene are bicycles and a horse drawn coach. Courtesy West Australian *(HIST6069)*

valuable communication and combat services and partaking in hit-and-run raids to harass the enemy. Contributing to the industrial and service development of the state were numerous cycle builders and dealers, the largest being Swansea Cycles of Fremantle who, in their heyday, produced over 1,500 machines a year. WA still has its builders, generally individuals who annually produce a couple of frames, though with the recent cycling boom, retail dealerships have increased substantially. But gone are the days when choice was restricted to a simple steel-framed machine, as recent fashion and technical improvements dictate variety in design and materials, involving importation of cycles that can cost as much as a new car.
Mel Davies

See also: Cycling, sport; Eastern Goldfields; Gold; Rabbit-proof fence; Transport
Further reading: J. Fitzpatrick, *The bicycle and the bush: man and machine in rural Australia* (1980); J. Fitzpatrick, *The bicycle in wartime: an illustrated history* (1998)

Cyclones A cyclone is defined by the Macquarie Dictionary as 'an atmospheric pressure system characterised by relatively low pressure at its centre, and by clockwise wind motion in the southern hemisphere', or as 'a tropical hurricane, especially in the Indian Ocean'. It is an extreme natural force: a tropical storm dominated by spiralling winds, which circle an 'eye' and bring torrential rain and gales in their path. Those which affect Western Australia form mainly in the Indian Ocean or the Timor Sea. They move slowly, erratically down the coast but sometimes veer out to sea instead of crossing the land. The cyclone season runs from November to May, coinciding with the wet season in the state's north.

The north-west coast of WA has been nicknamed the 'cyclone coast' because of the number of these storms that have raged across it. They average between five and seven each year and have taken their toll of ships for more than a century. At least eight vessels are recorded as striking Ningaloo Reef or foundering in a cyclone in the twenty years between 1856 and 1876. In 1887 almost the entire pearling fleet was destroyed by a cyclone. Five schooners and thirty luggers were lost with hundreds of men drowned. Because of these violent storms, Cossack and Roebourne were adorned with striking public buildings that were constructed as strongly as possible from stone or brick. Old Onslow, an early pearling port, was abandoned after cyclones and high tides silted up the river and the jetty.

Cyclones occur south of Geraldton also. During the twentieth century at least twenty were recorded as causing varying amounts of damage, sometimes associated with floods and sometimes with dust storms or fierce forest fires. In 1978 Cyclone Alby damaged property between Perth and Albany. Five people died as a result of this storm.

From the 1960s cyclones have been named and meteorological centres have used satellites to track them in order to warn shipping and communities of their approach. They bring welcome rain to the inland but can be very destructive. Tropical Cyclone Vance, which hit Exmouth in March 1999, contained wind gusts measured at 267 kilometres an hour, the highest then recorded in Australia. Cyclone George, which hit the Pilbara in March 2007, claimed three lives.
Michal Bosworth

See also: Environment; Meteorology
Further reading: N. Bartlett, *The pearl seekers* (1954); G. N. Boughton, *Tropical Cyclone Vance: damage to buildings in Exmouth* (1999); B. Hanstrum, 'A History of tropical cyclones in the Southwest of Western Australia, 1830–1992', *Early Days,* 10, 10 (1992); G. Henderson and K. Henderson, *Unfinished voyages: Western Australian shipwrecks 1851–1880* (1988)

D

Daily News The Perth *Daily News*, the colony's first daily newspaper, hit Perth streets on 26 July 1881, with a message from Horace Stirling, editor and part-owner, who had filled the same roles with the weekly *Inquirer*. The afternoon newspaper would satisfy the 'need of the public mind for the earliest information of the latest occurrences'. This theme was to be espoused by *Daily News* journalists for most of the newspaper's 108-year history, with the earliest information even being dispatched by racing pigeons in the 1880s.

Editor Stirling was a political conservative but his paper promoted self-government and other popular causes. However, steam-powered printing became too slow to handle the increasing circulation. A journalist,

Cartoonist Paul Rigby with 147 of his original cartoons produced for the Daily News*, which he is donating to the* Daily News *Orphans Christmas Appeal, 21 November 1967. Courtesy* West Australian *(HH7857)*

Arthur Lovekin, was sent to Britain in 1893 to purchase a rotary press and linotypes, both firsts for the state. Electricity replaced steam power, another first. Lovekin replaced Stirling as editor in 1894. He was a 'WA patriot' editor and later an advocate of conscription. He became the owner and, in 1926, sold his company to the *Adelaide News*.

In 1935 the *Daily News* came under the financial control of *The West Australian* and, in the following year, a golden age began with James Macartney, 24, as editor. Macartney sought to build the paper's circulation, then below 25,000, with frequent changes between editions to news and sporting pages and the Stop Press. Many stories championed the underdog. They were aimed at 'underdog' readers, who used public transport. Teams of newsboys prowled the city to make sure passengers took the paper home. Macartney also looked for new angles: his early coverage of the Second World War focused on the home front, which was a big change from Lovekin's militaristic approach during the First World War. After the war, Macartney recruited and initially personally supervised new talent, like columnist Kirwan Ward and cartoonist Paul Rigby, who helped take the paper's circulation to 135,000 in the 1970s.

In the 1980s the *Daily News*, as part of the Melbourne Herald group, fell to Robert Holmes à Court and eventually to Bond Corporation. Anti-monopoly law forced Bond to sell it in 1987 to United Media. Circulation and advertising were falling and debts rising when former London *Sun* editor Sir Larry Lamb was hired in 1987 as a consultant. He recommended his favourite formula:

entertainment not news and page-three girls, often pale, recycled Londoners. The tactic was unsuccessful, particularly among women readers. The paper, by then owned by Community Newspapers, closed on 11 September 1990, the day the Trade Practices Commission rejected a takeover bid by WA Newspapers. **Ron Davidson**

See also: *West Australian*
Further reading: J. Coulter*, By deadline to headline* (1997)

Dairying Dairy production has been part of the Western Australian agricultural scene since early settlement but has never grown beyond supplying much more than the needs of the state's own population. Even today, the state produces under 400 million litres of milk, or four per cent of the total Australian production, over half of which is consumed as fresh whole milk.

The origins of the dairy industry are obscure, as most of the early requirements for dairy products were met by house cows, the numbers of which were not recorded. Cows for milk were recorded as part of the colonial animal inventory in 1829 and the numbers grew by natural increase and importation from the eastern colonies and England to keep pace with the need for milk and dairy products. A healthy industry was well established in the last years of the nineteenth century and underwent rapid expansion into the twentieth century to meet the demands for milk from the burgeoning population of Perth following the discovery of gold. Most of this expansion was in the outer districts of Perth on the Swan coastal plain, but for brief periods there were butter factories as far afield as Geraldton, Northam, Narrogin and Gnowangerup. However, these districts were unsuitable for year-round milk production and the industry folded. As Perth grew, dairy farms gave way to suburbia and production moved mainly to areas further south where higher rainfall and

irrigation, as in the case of the Harvey district, made for more stable production systems. Dairying became the principal agricultural pursuit in the Pinjarra, Waroona, Bunbury, Capel, Busselton and Margaret River regions from the 1920s until the 1970s, although increasing land prices and competition with vineyards has forced relocation of production since the early 1980s. Grain and concentrates have been used increasingly in milk production, but Western Australian farmers, unlike their counterparts in other Australian states, have so far not relocated in large numbers to the source of these feedstuffs.

The original breeds of cattle used for dairying were all British in origin—Jersey, Guernsey, Ayrshire, Shorthorn—with a few minor breeds and a gradual infusion of the composite breed Illawarra Shorthorn from the turn of the twentieth century. However, in common with world trends from 1950 onwards, the Holstein Friesian, originally a Dutch breed developed in Canada and the United States, and noted for its high yield of milk and lower content of fat and protein, rapidly supplanted most of the other genotypes. Their distinctive black and white colour now predominates in the dairy landscapes of WA.

Throughout its history, the main product of the state's dairy industry has been fresh whole milk and, more recently, processed milk such as flavoured and low-fat milks. Many small factories and one or two larger ones, such as Brownes, have been set up

Sunny West Butter Advertisement. Courtesy WA Department of Agriculture and Food

over the years to produce cheese, ice cream and butter, but most have now disappeared leaving just a few 'boutique' specialist cheese producers. This situation was consolidated in the last part of the twentieth century by state government legislation through the *Dairy Industry Act 1983*, that saw strong regulation of the industry by price controls and supply quotas for market milk. Non-quota or over-quota milk, designated 'manufacturing milk', was traded at a fraction of the price of market milk, although often used for similar purposes such as flavoured milk drinks and milk products, and quotas changed hands among producers for very large sums.

In July 2000 the industry in WA was deregulated by federal government legislation (the *Dairy Industry Adjustment Act*), leading to massive restructuring. Prices of all milk products were set by those manufacturing dairy products, and these, in turn, by world prices received from the exports of these dairy products. The federal government has set up a Dairy Adjustment Authority and established legislation intended to help farmers readjust or leave the industry. The future is still uncertain but a continuing trend is for the number of herds in WA to decrease (to under 400 in 2005), for herd sizes to increase, and for productivity per cow and per hectare to increase. The number of milk cattle in WA has gradually reduced from 212,000 in 1964 to 132,900 in 2004, but total milk production had marginally increased. Today, the industry supplies most of the whole-milk needs of the state, but some cheeses and other manufactured products are imported. Some locally manufactured milk products are exported to Asia, but this is insignificant on a national scale because Western Australia's milk production, four per cent of Australia's total milk production, is a lower proportion than any other state.

Cattle have always been the major focus of the milk industry, although a few goat and sheep have been milked for home consumption and for niche markets. Since about

1990, milk from sheep and goats has become increasingly prominent for the production of specialty cheeses but it is still a very small industry in WA with only one or two private operators involved with each species. **David Lindsay and Graeme B. Martin**

See also: Agriculture; Food processing; Livestock; Pastoralism

Further reading: Australian Bureau of Statistics, *7124.0 – Historical Selected Agriculture Commodities, by State (1861 to Present), 2005* (2006); M. Cullity, 'Cattle Improvement', in G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979); G. Olney, 'Dairy industry in Western Australia', in *Department of Agriculture Bulletin*, 4361 (1999)

Dams and reservoirs provide the state's surface water storage facilities. Dams form impounding reservoirs which supply service reservoirs from which water is reticulated to domestic, agricultural and industrial users. In Western Australia the term dam is also used to describe some types of small reservoirs (e.g. farm and railway dams) and also waste storage reservoirs (e.g. tailings dams). Some of the earliest colonial dams were built in the 1860s by the surveyor C. C. Hunt, to collect run-off from granite outcrops along a track to the eastern districts (e.g. Weowanie Rock). Several of the dams built for the Eastern Railway to the goldfields, under C. Y. O'Connor during the 1890s, also utilised run-off from rocks (e.g. Merredin, Karalee, Boorabbin), as did dams servicing the 'wood lines'—tramways supplying firewood to the goldfields (e.g. Burra Rock and Cave Hill). Reservoirs built for the Great Southern Railway (1889) provided the first evidence in WA that the clearance of land for agriculture caused salinity of surface waters.

Perth's first reticulated water supply was provided by Victoria Reservoir, formed by a concrete dam on Munday Brook (1891), and

by a service reservoir on Mount Eliza. After several years of unsatisfactory operation the company was taken over by the government. Despite being supplemented by a pipehead dam on Wungong Brook (1925) and an earthfill dam on Churchman Brook (1929), Perth's water supply continued to be inadequate until the completion of a large concrete dam on the Canning River in 1940. Fremantle's first supply was gravitated from service reservoirs inside Fremantle Prison (1889) supplied from underground sources.

Mundaring Weir, the highest dam in Australia when completed in 1903, was the headworks for the Eastern Goldfields water supply scheme, one of O'Connor's greatest achievements.

In the 1930s and 1940s a number of dams were built in the Darling Range, under the supervision of Russell Dumas, to supply water for summer irrigation. These included raising an earlier concrete dam on the Harvey River (1931), Wellington Dam, a concrete dam on the Collie River (1933), and several earthfill dams, the largest of which was Stirling Dam on the Harvey River (1947).

After the war, expanded water supplies to agricultural areas and rural towns were provided by raising the two large concrete dams, Mundaring Weir (1951) and Wellington Dam (1960), using innovative procedures devised by Victor Munt. In the next twenty years, good quality water supplies were built by the Public Works Department for most country towns in the state, many of which were serviced by impounding reservoirs.

Metropolitan supplies were supplemented by dams on the Serpentine (earthfill, 1961), South Dandalup (earthfill, 1974), Wungong (cored rockfill, 1979) and North Dandalup (cored rockfill, 1994). With the completion of these dams, all the sites suitable for large reservoirs near Perth have been utilised and other forms of supply headworks have had to be sought.

Developments in the Pilbara from the 1960s have called for large quantities of fresh water. One of the major sources is the Harding Dam (cored rockfill, 1985), which is used in conjunction with large underground supplies at Millstream. The completion in 1971 of a large cored rockfill dam on the Ord River, creating Australia's second largest capacity reservoir, made large-scale irrigated agriculture possible in the East Kimberley. Since the building of the Victoria Reservoir almost all water supply dams in WA have been built by the state government. In the last twenty-five years several mining companies have also built large dams to supply water for their operations (e.g. Ophthalmia, 1982; Worsley, 1983; Boddington, 1986 and 1989). **Ian Elliot and Richard G. Hartley**

See also: Fremantle Prison; Goldfields water supply; Hills water supply; Ord River scheme; Water management
Further reading: H. E. Hunt, *Perth's early water supplies* (1984); S. Hunt, *Water: the abiding challenge* (1980); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

Dance, performance From the late 1890s Western Australia enjoyed a sufficiency of professional dancing entertainment in the many theatres built to accommodate the booming population resulting from the gold rushes. These ranged from the J. C. Williamson musicals with chorus dancers to the individualistic dancers on the vaudeville circuits, to the occasional visits of international artistic dancers such as Maude Allan (1914) and Anna Pavlova (1929). Dance schools opened in Perth, Kalgoorlie and smaller towns and regularly presented quality shows in the major theatres, establishing an audience for dance and an awareness that a living could be made in the business of dance.

Irene 'Rene' Essler (born 1906) was a professional dancer in Perth from age six to fifteen, touring Australia for four years in

vaudeville and musicals with her mother as chaperone. In the 1920s Rene took roles in J. C. Williamson's musicals that toured to Perth, and taught in her sister Peggy Essler's dance schools in Perth and Midland. Rene toured the UK in the 1930s as a champion ballroom dancer with husband Gerald McMorrow, returning to Perth to open a ballroom, tap and stage dance school and a ballroom dress shop. She did occasional J. C. Williamson shows in Sydney and Melbourne, was pianist for Perth ballet teacher Evelyn Hodgkinson and continued to perform in and produce musicals at His Majesty's Theatre in Perth until the early 1960s. Rene provided a good income for her family while she was a child dancer and was later successful in the business of dance entertainment and teaching, while raising two daughters.

'Fancy dance' teachers Doris Melville and Peggy Essler both opened schools from around 1910, when they were both under fifteen years old. English-trained Emmie Gable arrived in 1918 and, like Rene Essler, earned an excellent living as a dancer, teacher, choreographer and producer of professional shows until the late 1960s.

Fancy dance was an eclectic style that might include some 'toe' work (which meant dancing in blocked ballet pointe shoes), some traditional folk dances, and dance routines derived from the musicals seen on the professional stage. It was not uncommon for one hundred girls of all ages to turn up for one class at 9 am on a Saturday and for the younger ones to leave when they were tired, with the older girls still dancing at noon or later. Mrs D. S. Rolls, originally from Melbourne, was a significant fancy dance teacher in Kalgoorlie-Boulder from 1908, and then in Perth from 1914 until the early 1920s. This style of dancing for popular entertainment developed into the tap, jazz and acrobatic styles taught through dance societies such as the Commonwealth Society of Teachers of Dance (CSTD) from the 1930s to the present time. Graduates of these schools continue to

Barry Wrightson and Lesley Oliver (left) show the style that took them to victory in the WA section of the National Amateur Ballroom Championships, 22 May 1963. John Evans and Leilani Samuels (right) were third. Courtesy West Australian *(Q5183)*

find work in contemporary-style musicals, an evolution of the J. C. Williamson format of shows, and revues for casinos, cruise ships and similar cabaret-type work.

Linley Wilson (1898–1990) was the powerhouse for the serious study of ballet dancing from 1926 until the 1970s, with a school and a semi-professional ballet company, the Caravan Ballet, which toured in 1939–40 and again after the war. Along with Joan Stacy, Wilson established the Royal Academy of Dancing system in Perth. Ida Beeby's Patch Theatre presented modern dance innovations during the 1940s.

Kira Bousloff (1914–2001) came to Australia with the renowned de Basil Russian ballet company tour of 1938 and founded the West Australian Ballet Company in 1952. From 1961 the Perth City Ballet, directed by Diana Waldron, mounted semi-professional seasons. Both these ballet companies toured the state on a regular basis as professional companies in the 1970s, with Perth City Ballet becoming a youth ballet company in the 1980s. Kinetikos Dance Theatre commissioned contemporary work from Australian choreographers for several years from 1979; while the WA Academy

of Performing Arts established a School of Dance in 1981 for professional training.

Derek Holtzinger started 2Dance in 1985, which evolved into Buzz Dance Theatre, concentrating on school audiences. Chrissie Parrott commenced her leadership in contemporary dance in 1986, achieving spectacular success with her own company during 1990–95. The Festival of Perth hosted an array of international dance companies, particularly with European contemporary dance works, in the 1990s.

The early 1990s were the golden years of dance in WA with the innovations of a dozen outstanding choreographers and directors working with small companies or on one-off projects. In 2006 the West Australian Ballet Company and Buzz Dance Theatre were the sole professional companies with a base income assured by government grants. **Lynn Fisher**

See also: Arts policy; Children's theatre; Festival of Perth; Music; Musical theatre; Russians; Theatre and drama; WA Academy of Performing Arts
Further reading: L. Fisher, 'Chorus dancers in Western Australia, 1900–1940', *Papers in labour history*, 18 (1997); L. Fisher, 'Dancing Queen', in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella* (2003); J. Whiteoak and A. Scott-Maxwell (eds), *Currency companion to music & dance in Australia* (2003)

Darlot–Laverton conflict The Lake Darlot–Laverton conflict occurred when Aboriginal people from these two general areas fought a number of pitched battles and conducted raids into each other's country. These encounters, reportedly involving up to seventy people at a time and resulting in more than thirty known killings and a number of abductions, occurred mainly between 1904 and 1910.

The most prominent attacks, in terms of publicity and known casualties inflicted, were those by Darlot warriors on camps near Laverton in November 1908 and September 1910, while raids by the Laverton people into the country north of Lake Darlot caused from nine to eleven known deaths. Other raids may have gone unnoticed by Europeans.

Police interventions and arrests after the 1910 raid quietened the conflict, although there is evidence that the animosity, and even some killings, continued into the 1920s and perhaps beyond.

These events were an entirely Aboriginal affair. The raids were conducted using Aboriginal weapons and methods (spears and nulla nullas, dawn raids and disguised tracks). European authorities were caught unawares by each raid, and did not easily ascertain the Aboriginal motives for the conflict when investigations were held afterwards. Most contemporary Europeans understood the cause of the conflict to be a cycle of revenge, with the original motives unknown. **Craig Muller**

See also: Aboriginal culture and society
Further reading: D. Bates, *The passing of the Aborigines: a lifetime spent among the natives of Australia* (1972); B. Reece, *Daisy Bates* (2007)

Dawesville Cut is a channel cut between the Harvey Estuary and the ocean designed to prevent the occurrence of algal blooms. It was conceived as part of an overall package of measures to improve the health of the Peel Harvey Estuary. The cut is 2.5 kilometres long and required the removal of 4.5 million cubic metres of sand dune and coastal limestone during construction. The channel was formally declared open by the premier, Richard Court, on 23 April 1993, the project having been approved by the cabinet on 3 January 1989 with an estimated cost of $54 million.

Major landscape alterations in the Peel Harvey catchment, particularly in the 1930s, led to a greatly increased load of nutrients. The replacement of native vegetation with

introduced species with a high dependency on fertiliser for adequate growth was the major problem. Most of the fertiliser applied was not taken up and instead was washed into drainage systems and thence into the estuary. This substantial change to the natural system led to an increasing number of blooms of toxic blue-green algae. These blooms had an offensive odour and when they collapsed they had serious effects on faunal populations in the estuary.

Substantial community concern about the health of the estuary, growing since the early 1970s, led the state government to announce a package of measures include planning responses such as the Peel Harvey Statement of Planning Policy (gazetted February 1992), major investment in catchment management initiatives and the construction of the cut. The increased salinity of water in the estuary is not conducive to such algae. While this has been effective in controlling blooms in the estuary, there have also been other problems created, such as the increase in breeding area for mosquitoes. **Kylie Carman-Brown**

See also: Environment; Infrastructure and public works; Peel region; Pollution
Further reading: K. Bradby, *Peel-Harvey: the decline and rescue of an ecosystem* (1997)

Daylight saving occurs when local time is altered by turning clocks forward, usually by an hour, from standard official time during summer. The process is reversed at the end of summer. The practice is intended to 'save' daylight as opposed to wasting it by, for example, sleeping while the sun shines.

Daylight saving was first introduced in Germany in 1916 to conserve energy during the First World War. In Australia it operated nationally as a wartime energy-saving measure from 1 January to 25 March 1917 and was reintroduced on 1 January 1942 for the duration of the Second World War, although Western Australia was exempted in 1943.

Daylight saving is now the responsibility of individual state and territory governments rather than the Commonwealth, and in 2006 Queensland and Northern Territory did not participate. A daylight-saving trial was held in WA from 27 October 1974 to 2 March 1975. This was followed by a negative vote in a referendum held on 8 March 1975 (250,644 affirmative; 290,179 negative). There were two further trials in the state (30 October 1983 to 4 March 1984 and 17 November 1991 to 4 March 1992), both followed by equally close referenda in which the 'no' votes were 54 and 53 per cent respectively. Those against daylight saving argued that people living through hot summers welcomed the sun going down earlier rather than later as a respite from the sweltering summer heat. It was also argued that it would be difficult to get young children to sleep when it was still daylight. Less reasonable were the arguments that curtains would fade and dairy herds would be confused. Some attitudes towards daylight saving embodied a mythic rural view of WA life.

The major disadvantage of non-participation in daylight saving for Western Australians has been the addition of an extra hour to interstate time differences during summer months and the reduction in common working hours between states. The lack of conformity in start and end dates of daylight saving adds to the general confusion, causing significant problems for national communications and transport organisations. Western Australia's business community has frequently lobbied for the introduction of daylight saving, and as a result it was adopted by the Carpenter Labor state government, commencing on 4 December 2006 for a three-year trial.

Official Western Daylight Saving Time is UTC/GMT (Coordinated Universal Time/Greenwich Mean Time) +9 hours. Under state legislation, Western Standard Time is UTC/GMT +8 hours, two hours behind Eastern Standard Time. However, a small area of WA from the town of Caiguna to Eucla to

Border Village in South Australia unofficially observes a local time zone, UTC/GMT +8 hours 45 minutes. These tiny towns, with a total permanent population of about 200, are located along the Eyre Highway close to the border between South Australia and WA. Another unofficial exception is the town of Giles, near the Northern Territory border, which uses Australian Central Time, the same time that South Australia uses. Its standard time is therefore UTC/GMT +9 hours 30 minutes. All of WA, including towns near the border, observes daylight saving by advancing clocks by one hour. **Jenny Gregory**

See also: Communications
Further reading: G. Davison, *The unforgiving minute: how Australia learned to tell the time* (1993)

Death of early settlers and their dignified interment was an important concern when instructions for the new settlement in the Swan River Colony were issued in London in December 1828. Lieutenant-Governor James Stirling was directed to establish public cemeteries away from town centres in order to 'prevent indiscriminate burials and unpleasant consequences arising therefrom, in a warm climate' and to forward a register of the names, ages, professions and places of birth of the deceased to the Colonial Secretary.

The majority of deaths in the first years of settlement were attributed to dysentery and scurvy. Funerals took place on the day of death or soon after due to the climate and lack of mortuary facilities. Families often took responsibility for preparing the body, providing the coffin, digging the grave and reading the burial rites, although cemetery burials were not available to everyone. In 1847 'Malcolm the murderer' was executed by hanging and buried where he had committed his crime, while in 1866 James Pollitt, a drunkard, was deemed a suicide by his

lifestyle and refused burial in the Church of England cemetery.

Although by 1837 the 'Sons of Australia' provided a funeral fund to which families subscribed a few shillings a year for a suitable and dignified burial, poverty still prevented many families from purchasing a coffin or a plot for interment. Each year the government called tenders for the burial of destitute paupers. In Perth and throughout the colony the local cabinet-maker or wheelwright offered funeral services by providing coffins and funeral furnishings. In 1862 John Summers, engineer, carriage builder, carpenter and precursor of the modern professional funeral firm, commenced his business Pioneer Carriage Works in Hay Street, Perth. Summers provided all the funeral furnishings and was responsible for early apprenticeships for all trades in his business. For the wealthier members of the colony Summers provided glass-sided hearses drawn by four black horses adorned with black ostrich feathers. An embroidered pall, huge floral tributes, silver ornaments and handles decorated the elaborate caskets. Lucinda Wimbridge became owner of the Pioneer Carriage Works in the late 1880s after the death of her husband William, an early apprentice of John Summers. During this period the daily newspapers advertised a professional service for the dyeing of all suitable clothes black for the period of mourning observed by women. Funeral etiquette was strictly adhered to by most of society and only modified following the First World War when the community had experienced too much death. After 1945 women were at liberty to attend funerals, there was no set period for formal mourning, no black-edged stationery and black crepe armbands were rarely worn by men.

Joshua Josiah Harwood, former captain of the ferry *Lady Stirling*, was licensee of the Crown and Thistle Hotel and the earliest leading undertaker in Fremantle. By the turn of the century the firm of Arthur E. Davies in Market Street was prominent, though in 1904 Davies sold out to the Green family and

entered state parliament as member for South Fremantle in 1906. By the 1890s a number of family funeral firms were well established. In June 1889 Donald J. Chipper conducted his first funeral from 385 Murray Street. Michael Joseph O'Dea, blacksmith, entered into the funeral partnership with wheelwright and coachbuilder William Bowra in Pier Street, also operating as the Standard Coach Factory until 1906. The partnership ceased in 1913 after Bowra retired. In 1907 James Purslowe established his business in Northam, and in 1924 moved to Guildford.

The general public generally observed funeral processions with respect, with traffic stopping and gentlemen removing their hats until the hearse passed by. The first motor hearses were most often conversions from original horse-drawn hearses. In 1913 Sharp Body Builders, in Roe and James Street, built the first motor hearse from an Overland saloon car.

The *Cemeteries Act 1897* closed the East Perth Cemeteries and Skinner Street Cemetery to further burials, except under special circumstances, and in 1899 Karrakatta Cemetery was established. The *Cemetery Act 1902* and subsequent cemetery by-laws provided for the licensing of all undertakers. Without a licence, a funeral cortege could not enter the cemetery, and no open coffin was permitted in the cemetery. Undertakers tendered for contracts for free government burials with the constriction that no monumental work could be erected until the family purchased the gravesite.

Community outbreaks of smallpox, bubonic plague and typhoid created special problems. In 1892 a small unconsecrated cemetery was set aside in Subiaco for burial of smallpox victims, and in 1906 their remains were exhumed and interred at Karrakatta. In 1897 there were 407 typhoid deaths throughout the colony, including that of the Hindu Kalla Singh, whose public cremation took place near the Claremont Railway Station. In 1876 the Quarantine Station at Woodman Point

was established for infected persons including extreme cases of venereal disease, and a crude cremator built for the disposal of remains after disposal at sea and funeral pyres on the beach were deemed unsatisfactory by authorities and local fishermen. In 1919 thirty men and four nurses died during the pneumonic influenza pandemic after ships offloaded hundreds of infected troops returning from the First World War. The interstate passenger service was suspended and a quarantine station set up at Parkeston near Kalgoorlie. From August to October 1919 there were 555 interments at Karrakatta, the majority influenza victims. The introduction of refrigeration in mortuaries allowed more time to prepare elaborate and formal funerals. A funeral carriage on the train from Perth to Karrakatta was in service from 1899 to 1930, allowing mourners to accompany the cortege to the cemetery.

Changes in religious and cultural attitudes to death and interment in a secular society have influenced the manner of funerals held at cemeteries. In 1937 the first crematorium chapel, designed by architect Reginald Summerhayes, was built at Karrakatta Cemetery. Over the decades crematoriums were also built at Fremantle, Pinnaroo, Albany, Bunbury, Geraldton and Kalgoorlie. At the close of the twentieth century, cremation accounted for 73 per cent of funerals in the metropolitan area.

A Prayer Hall for Jewish funerals, a stillborn memorial garden and children's burial section were provided at Karrakatta Cemetery. The original Anglican mortuary chapel built in 1899 was reconstructed in Kings Park as the Vietnam Memorial Pavilion in 1989. Pinnaroo Valley Memorial Park is non-sectarian with no headstones and is set among natural bushland. In 1992 a section of Guildford Cemetery was set aside for burial of original Swan Valley Nyoongar people, while new sections were allocated for Muslim burials and also for the Orthodox churches who only permit burial. In 1995 the first of four above-ground mausoleums was built at

Karrakatta following a request from the Italian community, and by 2005 mausoleums had also been built at Fremantle, Guildford and Midland cemeteries. **Leonie B. Liveris**

See also: Cemeteries; Infant mortality; Influenza epidemic; Population; Quarantine; Typhoid epidemics; War memorials
Further reading: Y. Coate and K. Coate, *Lonely graves of Western Australia & burials at sea* (1986); P. Jalland, *Australian ways of death: a social and cultural history 1840–1918* (2002); L. B. Liveris*, The dismal trader: the undertaker business in Perth, 1860–1939* (1991); L. B. Liveris, *Memories eternal: the first 100 years of Karrakatta* (1999)

Deaths in custody In response to public agitation by members of the Aboriginal community, growing public concerns about the number of Aboriginal deaths occurring while in custody, and public perception that explanations for these deaths were too evasive to discount the possibility of foul play, the federal Royal Commission into Aboriginal Deaths in Custody (RCIADIC) was established in October 1987. This was four years after the 1983 death in Roebourne lock-up of young Aboriginal man John Pat, one of the catalysts leading to the RCIADIC. The RCIADIC investigated the circumstances that led to the deaths of ninety-nine Aboriginal people in custody (prison, police or juvenile detention) across Australia between 1 January 1980 and 31 May 1989. Of those ninety-nine who died, the youngest was fourteen years old, the oldest sixty-two years, and eleven were Aboriginal women. Nearly a third of these deaths (thirty-two) occurred in Western Australia, the highest number for any state, with Queensland second with twenty-seven deaths.

On 15 April 1991 the report, which made 339 recommendations, was presented to the federal, state and territory governments. The RCIADIC found Aboriginal inmates and detainees were no more likely to die while in custody than non-Indigenous inmates or detainees. The Commissioners laid the blame for the numbers of Aboriginal deaths occurring in custody squarely on the disproportionate numbers of Aboriginal people who are taken into custody: approximately twenty times the rate for non-Indigenous people. The report also found that 'in many cases death was contributed to by system failures or absence of due care'.

In response to the RCIADIC report, the federal government agreed to grant $400 million for measures required to implement the recommendations. Further, the federal, state and territory ministers agreed to formulate a 'whole of Government' approach to combat the high incidence of Aboriginal deaths in custody. Statistics indicate this has been largely unsuccessful, due in part to the lack of cooperation between federal, state and territory governments regarding implementation of the 339 recommendations.

Since the RCIADIC report there has been a trend away from deaths in police custody. Unfortunately, in the same period there has also been an increase in the numbers of Aboriginal deaths occurring in prisons. The 1996 ATSIC report *Indigenous Deaths in Custody 1989–1996* noted: 'while…the number of non-Aboriginal people dying in Australian prisons has decreased markedly, it is alarming that deaths of Aboriginal people have continued to increase reaching [in 1995] the highest figure recorded for the 16 year period from 1980'. In 1995 a record twenty-two Aboriginal people died in custody, with approximately eight RCIADIC recommendations breached in each of the deaths examined that year. The evidence on police custody, juvenile detention, adult imprisonment and deaths in custody showed a picture of little progressive change since the Royal Commission handed down its findings and recommendations in 1991. This failure, combined with other associated factors such as a more punitive approach to law and order generally, has exacerbated an already unacceptable situation.

Positive results that can be traced to the RCIADIC recommendations include: Aboriginal interpreters being available for those who require them; night patrols assisting in diverting people from the attention of police; and legal studies courses for Aboriginal people. A further outcome was the formation in 1993 of the WA Deaths in Custody Watch Committee (DICWC), a widely-based community organisation with both Aboriginal and non-Aboriginal membership, which seeks to further the process of implementing the RCIADIC's recommendation, in particular the 212 recommendations relating to the criminal justice system in WA, very few of which have been implemented. **Brett Farmer**

See also: Aboriginal prisoners; Imprisonment; Rottnest Island Native Prison; Royal Commissions and Inquiries, Indigenous

Further reading: Aboriginal and Torres Strait Islander Social Justice Commission, *Indigenous deaths in custody 1989–1996* (1996); C. Cuneen and D. McDonald, 'Indigenous imprisonment in Australia: An unresolved human rights issue*', Australian Journal of Human Rights*, 3, 2 (1977); M. Dodson, 'Introduction to the 10th anniversary of the Royal Commission into Aboriginal Deaths in Custody special issue', *Indigenous law bulletin*, 5, 8 (2001)

Democratic Labor Party After the Australian Labor Party (ALP) split in 1955 the Democratic Labor Party (DLP) was formed. Initially known as the Australian Labor Party (Anti-Communist), the title Democratic Labor Party was adopted in all states except Queensland in 1957. The DLP (WA) grew from seven members in November 1955—the party's first act was to stand two Senate candidates in the 1955 federal election—to 621 members in 1968. Many members were Roman Catholic and ex-members of the ALP.

DLP policy was an eclectic mix of socialism and conservatism: allegiance to the British Crown; defending 'basic civil liberties' from attack, especially from communism or fascism; developing the nation's physical resources 'collectively', but promoting the 'good of the individual'. In the latter part of the 1950s the DLP supported Israeli incursions on the Gaza Strip, and advocated expanding the South East Asia Treaty Organisation, maintaining Australian troops in Malaya and Singapore, extending the National Service Training Scheme, and increasing the number of assisted passages to British migrants.

The first electoral impact was felt in the 1955 federal election. In the seat of Perth, although both were devout Catholics, the Catholic Church supported the Liberal candidate, Fred Chaney, over the sitting ALP Member, Tom Burke, and Burke lost his seat. The WA Branch of the DLP captured 10.5 per cent of the formal vote in the 1958 federal elections, and in the 1959 state election was instrumental in unseating the Hawke Labor government, by directing preferences to the non-Labor parties. Yet the WA Branch was never able to elect its own parliamentary representatives at state or federal level. No prominent parliamentarians joined the local leadership. The party's strongest indicator of statewide support was achieving 9.8 per cent of the total formal vote in the 1966 Senate election, but even this was partly due to the absence of Country (subsequently National) party candidates. According to Clarke, the DLP (WA) was not 'a Labor Party in the Australian sense', as it did not develop a union base, and the party machine was run by an 'autocratic minority who borrowed policies from the [Catholic] National Civic Council'. The Party's *raison d'être* was negative: electorally crippling the ALP to force a reunion.

A major quarrel erupted in the ALP over reunion negotiations with the DLP before the 1965 state election. The anti Vietnam War campaigns of the late 1960s, Labor's 1966 decision to include state aid to non-government schools in its platform, and the federal Labor victory in 1972, contributed to the Party's demise in

the mid 1970s. According to one-time Party Secretary Brian Peachey, the DLP (WA) rashly over-reached itself in the 1971 state election by standing candidates in every seat, yet failed to prevent the ALP gaining government for the first time since 1959. The party disintegrated in 1974, when some sections of the DLP (WA) attempted unsuccessfully to form an alliance with the Country Party. **Bobbie Oliver**

See also: Australian Labor Party; Federal politicians; Parliament; Politics and government
Further reading: F. G. Clarke, 'The Democratic Labor Party in Western Australia', Masters thesis, UWA (1969); B. Oliver, *Unity is strength: a history of the Australian Labor Party and the Trades and Labor Council in Western Australia, 1899–1999* (2003)

Dentistry Though toothache caused much suffering, there were no dentists in the colony in the earliest years of settlement. Pharmacists' training included rudimentary dentistry and some used forceps or even a brutal tool called a 'tooth key' to lever diseased teeth from their sockets. There were stories of jewellers, farriers, gunsmiths and blacksmiths relieving dental pain, and of extreme self-help measures. The most popular anaesthetic was a slug of whisky. One sufferer forced a red-hot piece of iron into his tooth with pliers, and another blew his head off with gelignite when the anticipated visiting dentist failed to arrive on the train.

In 1894 the first *Dental Act* was passed and dentists were required to register their names and qualifications. Overseas university-trained dentists were registered alongside 'characters' such as Ralph Potts, who sold 'magic' pills and extracted teeth in public accompanied by a brass band to drown out the groans.

A formal apprenticeship system was established in 1897 and the Dental Board of WA was founded in 1898. The Board conducted the final examinations for the apprentices until 1950, although it could not bestow

formal qualifications. Dr J. A. C. Wilson, foundation secretary of the WA Dental Society, chaired the Dental Board for nearly forty years. He was among leading dentists who pushed for professional qualifications. They had many opponents, including the state's dental companies, which advertised cheap services, ran group practices and gave time to pay. They were typically run by businessmen such as Alfred Kaufman, long-term owner of the Metropolitan Dental Company, who became a registered dentist in 1920, despite his lack of qualifications.

The WA Dental Society was founded in 1909 by a group of dentists as a means of uniting the profession. This Society later became the Western Australian Branch of the Australian Dental Association and in 2006 had over one thousand members.

In 1922 the first formal dental classes were introduced at Perth Technical School. In 1927 the Perth Dental Hospital and the Perth Dental College opened, with Gilbert Henderson chairing the councils of both bodies. He had been the President of the WA Branch of the Australian Dental Association in 1922, and in 1935 became Dean of the College that, in 1938, became known as the Western Australian College of Dental Science.

V.A.D. dentist, dental nurse and patient at Hollywood Hospital, 7 September 1947. Courtesy West Australian *(NN782)*

The College and Hospital established a joint educational committee in 1936, a necessary step towards affiliation with The University of Western Australia (UWA) in 1937.

A new *Dental Act* passed in 1939 established the present Dental Board, and in 1941 the Perth Dental Hospital became a provider of public dental services and College training facilities. In 1946 Professor Horace Radden was appointed by UWA as the first Dean of its new Faculty of Dental Science, the Dental Hospital and the WA College of Dental Science. The hospital's activities expanded and new premises opened in 1950, the year the faculty's first eight students graduated, including the first female WA university dental graduate, Miss Sally Isaacs. In the 1950s the Dental Hospital's services were decentralised.

In 1967, in response to concern about high levels of dental decay, the Public Health Department established a Dental Health division, appointing its first Principal Dental Officer, Dr John Prichard. The *Dental Act* was amended in 1973. Training for Dental Therapists began in 1971 with a course at the WA Institute of Technology (now Curtin University). The training of dental hygienists began in 1995 and the Act was amended again in 1996 to accommodate this new auxiliary. In 1967 fluoridation of the water supply began in many parts of WA and the School Dental Service was established to provide free basic dental care to schoolchildren aged up to sixteen years, a service still in operation in 2007. In 1994 the UWA Faculty of Dentistry was merged with the Faculty of Medicine to become the Faculty of Medicine and Dentistry. Subsequently, in 2006 the Faculty was renamed the Faculty of Medicine, Dentistry and Health Sciences as its teaching expanded into other areas of health education. The School of Dentistry has also continually expanded in size, with fifty-seven students commencing their studies in 2006.

In January 2002 the Perth Dental Hospital closed and its services were relocated to clinics throughout the metropolitan area. UWA and the state government jointly established the Oral Health Centre of WA on a site located adjacent to the QE II Medical Centre. It is a purpose-built facility that houses the UWA School of Dentistry, Curtin University's Department of Dental Therapy & Dental Hygiene, and TAFE training courses for dental clinic assistants and dental technicians. **R. F. Stockwell and John R. Owen**

See also: Curtin University of Technology; Public health; University of Western Australia

Further reading: K. V. Mattingley, *Dentist on a camel* (1986)

Depression The 1930s 'Great Depression' in Western Australia was part of a global downturn generated by the predictable exhaustion of the USA's long-run dynamic strategy. It occurred at a time when the world was experiencing war-induced financial imbalance together with agricultural overproduction. While WA was only a junior player on the world stage in the drama of agricultural over-expansion, its participation rendered it highly vulnerable to adverse world conditions. External influences in the form of collapsing export prices and vanishing capital flows between 1929 and 1931 impacted on the state's economy through the export sectors of wheat, wool and gold. Local factors, such as government-driven overexpansion of wheat at the expense of manufacturing and goldmining, played a secondary but significant role.

How severe was the Depression? Between 1928 and 1931 Western Australia's average living standard (measured by real GDP per capita) fell dramatically by one-quarter, and did not recover completely until 1939. At the same time, trade union unemployment rose from 6.5 per cent in 1927 to 28.4 per cent in 1932, when 41,000 men and women in the state's workforce were without jobs, only regaining pre-Depression levels in 1937. In

comparison with Australia as a whole, the West suffered a more abrupt break with former prosperity—largely because it had continued to grow until 1928, whereas the rest of the nation stagnated after 1924—but recovered a year earlier and with more vigour. Despite its obvious severity in both the West and the wider nation, the Great Depression did not damage the underlying dynamic process and, therefore, failed to generate social instability, much to the puzzlement of later observers.

Western Australia's recovery was due to a goldmining revival generated by an increase in gold prices by as much as 131 per cent between 1930 and 1939, owing to the widespread devaluation of currencies in terms of gold. Ironically, the very forces (export prices and capital flows) that had driven WA into depression laid the foundations for its unique early recovery. As a result, employment in goldmining increased from an all-time low of 3,863 in 1929 to a new peak of 15,216 in 1939. This generated further demand for consumer goods, housing, plant and machinery, and materials, thereby stimulating many other industries. Goldmining was the leading sector in an early recovery in which the other export sectors had difficulty participating. Governments had little impact on recovery.

How did the unemployed survive during the depression? In the early years this was left to private initiative and the extended family, and the resulting difficulties were felt most keenly by urban males. On winning the June 1930 election, the Nationalist Party led by James Mitchell initially continued the non-interventionist policy begun by the previous Collier Labor government. Hence, unemployment relief before 1931 was limited to payment of 'sustenance', establishment of unemployment settlements (Nornalup, Nannup, Busselton and Albany), and provision of public charity. Only from 1931—the depression's nadir—were public works used to relieve unemployment. As this policy was continued by the re-elected Labor government (April 1933), by 1935

about 95 per cent of the government-assisted unemployed were working on water and sewerage works, railways, roads, public buildings and forest development. Indirect government aid was also provided through industry assistance to the old export industries and, for the first time, to manufacturing. But government support only began once recovery, stimulated by gold, was underway.
Graeme Donald Snooks

See also: Class; Economy; Homelessness; Poverty; Secession, Trade unions; Unemployment; Welfare
Further reading: G. C. Bolton, *A fine country to starve in* (1972); G. D. Snooks, *Depression and recovery in Western Australia* (1974); G. D. Snooks, *Ephemeral civilization: exploding the myth of social evolution* (1997); G. D. Snooks, *Portrait of the family within the total economy* (1994); J. Gregory (ed.), *Western Australia between the Wars, 1919–1939: Studies in WA History*, 11 (1990)

Deputation, 1928 The Aboriginal deputation to the state premier in 1928 was arguably the start of the civil rights movement for Aboriginal people in Western Australia. Although there had previously been disputes over rights to land and other local issues, this was the first time that several Aboriginal families, from various parts of the south, united to challenge authorities over their rights as citizens of the state.

On 9 March 1928, brothers William and Edward Harris led a delegation of seven Aboriginal men to the office of Premier Philip Collier to protest over the injustices to Aboriginal Western Australians, particularly the constraints imposed under the *Aborigines Act 1905.* The deputation also included Norman Harris, Arthur Kickett, Wilfred Morrison, Edward Jacobs and William Bodney. The group met with Premier Collier, calling for equal rights and legislative reform and arguing that the Act disadvantaged many Aboriginal

people because they were barred from state schools, segregated, could not vote and were denied land rights or ownership. The group also criticised the Chief Protector of Aborigines, A. O. Neville, describing him as one of 'the worst enemies of the Aborigines'. The premier promised to look into the matter, but their concerns were dismissed after a departmental report that same year claimed the men lacked knowledge of the conditions of Aboriginal people in WA.

This first Aboriginal deputation sparked some interest and sympathy from the press and, while it failed to trigger any immediate positive change, it influenced others to speak out about the treatment of Aboriginal people in later years. **Narelle Thorne**

See also: Aboriginal administration; Aboriginal culture and society; Citizenship, Aboriginal
Further reading: A. Haebich, *For their own good* (1988)

Derby, the Kimberley's first town, was established in 1883. Situated near the mouth of the Fitzroy River, it initially catered for the West Kimberley pastoral stations. From 1881 onward, those stations put thousands of sheep, cattle and horses on land occupied by the Warrwa, Nyikina, and other Aboriginal people.

Aboriginal people have always had a strong presence in Derby. Employment and family connections attracted some but others went there against their will. The old police gaol (1906) is a stark reminder of the conflict generated by European colonisation. At Bungarun (the former leprosarium, located about 25 kilometres from the town), hundreds of graves mark the last resting place of Aboriginal people who received treatment for Hansen's disease between 1936 and 1986. Some of the original Bungarun buildings have survived, but many of Derby's early buildings have succumbed to termite damage. Wharfinger's House (1928) is typical

of functional housing designs featuring cross ventilation, wide verandahs and storm shutters. Other smaller corrugated-iron houses were less comfortable.

The port has always been important for Derby. Pearlers boosted the town's economy and, until the telegraph line arrived in 1889, shipping provided it with communications as well as transport. A telephone exchange opened in 1915; Australia's first airmail service arrived in 1921; and by 1955 long-distance telephone calls were available. The construction of port facilities required great ingenuity because the Derby tides, which can reach 11.8 metres in normal conditions, are not only the highest in Australia but also among the highest in the world. Wide mudflats separate the town from its jetty and, at the edge of the mudflats, a disused woolshed and loading platform mark the alignment of the long tramway that once ran down the main street and out to the jetty.

Today, with a population of about 4,500 residents in 2006, Derby provides services ranging from education to health. It caters for its residents and for industries that include grazing, mining and tourism. **Cathie Clement**

See also: Aviation; Bungarun; Communications; Frontier violence, Kimberley; Kimberley; Pastoralism; Pearling
Further reading: C. Hattersley, *Pioneer and Aboriginal Cemetery Restoration Project, Derby, WA* (2003); I. L. Idriess, *One wet season: a saga of the great North West* (1979)

Design and designers Design reform was a nineteenth-century preoccupation in Britain and France, and this affected design in Western Australia because for most of the century designs for boats, buildings, furnishings and fashion were primarily taken from pattern books or adapted from memory. An exception was design based on Western Australia's unique wildflowers. Georgiana Molloy, for

instance, sent home designs for use by English textile and ceramic manufacturers. Dilettante interest saw Henry Prinsep design sets and costumes for theatrical productions plus the interior of the 1881 International Exhibition.

As late as the 1890s most official design work was undertaken by various branches of the Public Service, examples being the Mace for parliament and the casket with its illuminated address to Queen Victoria on her Diamond Jubilee. Illuminated addresses were a major form of presentation.

The gold rushes engendered a distinctive range of jewellery developed by some of the more than one hundred jewellers who arrived at the time. Exquisite works emblazoned with exotic names of mines and towns and incorporating unlikely imagery such as miners' tools and stamper batteries were made by G. R. Addis, C. E. Band, J. Pearl, Mazzucchelli & Downes, Caris Bros, Levinsons and others.

This was an era when artists designed for industry and domestic interiors. Unfortunately we know few of the designers, except perhaps Philip Goatcher who designed patterns for pressed metal for Wunderlich in Sydney before the company took over various local works. Goatcher also designed scenic backdrops and was responsible for the Boulder Town Hall curtain and others. Francesco Vanzetti designed buildings, fountains, catalogues, furnishings, furniture, embroidery, silver, jewellery and trophies until he went farming in 1910.

Graphic designers at this time included Percy Stanway Tapp for E. S. Wigg & Sons, who went on to take charge of graphics at West Australian Newspapers. Other local artists who designed postcards or illustrations included J. W. R. Linton, May Gibbs and, after 1910, Amy Heap. F. M. Williams, President of the WA Society of Arts, first teacher at the Technical Art School and occasional designer, instituted competitions for designs suitable for manufacture. Loui Benham, the art needlework teacher, created and sold designs for others to work. Interior designer Daisy Rossi

exhibited schemes for interiors together with designs for cushions, curtains and portieres. Both women won design prizes at exhibition as did the designer-makers Vanzetti, Gordon Holdsworth and J. W. R. Linton, who succeeded Williams at the Perth Technical School. Design was the strength of his teaching.

After the First World War, 'commercial art' became an important art form reaching a high level of sophistication. The graphic arts were one of the strengths of A. B. Webb, who arrived in the 1920s. Webb undertook design for local product packaging as well as posters for the Empire Marketing Board and a railway poster, displayed on railway hoardings in Britain. According to Australian art authority William Moore, Perth had developed into the third art centre of Australia.

Style and mass production came to dominate international design after the Great Depression. WA, with its lack of industry, had few places for designers. The exceptions were the print, jewellery, fashion and plaster industries. Eileen Cook and her husband Edward Kohler were two who worked across these fields, while Clem Ambler, Ivor Hunt, Stewart Cownie and John Lungi worked in print for Gibbney & Son, Art Photo Engravers or *The West Australian*.

After the Second World War there was a new impetus to design and make objects in the state. Brisbane & Wunderlich, manufacturers of Wembley Ware (1946–61), the largest range of commercial ceramics in Australia in the 1950s, employed designer/modellers such as John Tribe to develop their bright china wares. Darbyshire Potteries employed mainly migrant workers, including the sculptor Bruno Guigliarelli (or Giugliarelli). At this time professional organisations were set up, including the Society of Interior Designers of Australia and the Industrial Design Council of Australia. The latter instituted Good Design Awards. Perth firm Catt Furniture was the first in Australia to win an award for a complete range of furniture. They were associated with David Foulkes Taylor and Davro, two

interior design firms that had an impact in the 1960s. Fabric designers who supplied lengths for projects in the 1960s and 1970s included Helen Grey-Smith and Patricia Hines, while Tish Oldham had success with her fashion label Tish & Jane.

The expansion of art schools, courses and opportunities in various fields of design in the 1980s saw a number of graduates distinguish themselves—Andrew Carter in theatre design being particularly notable, establishing an international practice, while Craig Buchanan, a graphic designer, won national and international awards. Local fashion designers entered both national and international markets. Australian Fine China has used a range of Australian artists as designers for their china. **Dorothy Erickson**

See also: Art education; Craft practitioners; Fashion industry; Textiles, clothing and footwear
Further reading: D. Erickson (ed.), *Art & design in Western Australia: Perth Technical College, 1900–2000* (2000); D. Erickson, 'Australian Fine China: artists and industry', *Artlink*, 17, 1 (1997); D. Erickson, 'Cinderella's Jewellery: The Goldrush Brooches of Western Australia', in I. McCalman, A. Cook and A. Reeves (eds), *Gold: forgotten histories and lost objects of Australia* (2001); D. Erickson, 'Commercial Art Pottery in Western Australia 1920s–1960s', *Australiana*, 25, 1 (2003); J. D. Thomson, *Calyx, Wembley Ware and Bristile china* (1989)

Diamonds Gold prospectors at Nullagine made the first discovery of diamonds in WA in 1895, but the development of this and subsequent small alluvial deposits were not economically viable. It was not until 1976 that the first significant diamond discovery was made at Ellendale, 140 kilometres east of Derby in the Kimberley, where exploration revealed approximately fifty diamond pipes, but they too were considered to be

uneconomic for a mining operation to be established. The delay in diamonds being discovered in WA was due in part to their atypical occurrence within lamproite rock rather than kimberlite geological formations as found elsewhere. The major Argyle discovery was made in 1979, 130 kilometres south-west of Kununurra, with initial production being concentrated on the associated alluvial deposits of Smoke and Limestone Creeks. Mining of the main Argyle diamond pipe began in 1985 and has proven to be the most prolific source of diamonds in the world, although the majority are of an industrial rather than gem quality grade. A second diamond mining operation was established at Bow River (1988–95), 30 kilometres downstream of the Argyle deposit. Mining of the previously discovered Ellendale deposits began in 2002. **Garrick Moore**

See also: Geology; Kimberley; Mining and mineral resources
Further reading: D. Duval, T. Green and R. Louthean, *The mining revolution: new frontiers in diamonds* (1996); A. L. Jacques, *The kimberlites and lamproites of Western Australia* (1986); J. E. Shigley, J. Chapman, and R. K. Ellison, *Discovery and mining of the Argyle Diamond Deposit, Australia* (2001)

Diet Understanding what we eat, when we eat it and how it arrives at our table is fundamental to any discussion of diet. There has never been just one diet for all Australians and in Western Australia, a place of many migrants, the word has always meant different things to different people. Our diets are influenced by many matters including country of birth, age, gender, class, medical advice, level of prosperity and food technology. More pragmatically, what we eat depends largely on what we can catch, grow, preserve, import, buy, gather or cook.

Aboriginal people, themselves distinguished by place of birth and available foods,

ate when they were hungry, as far as we know, and ate well when food was abundant but poorly at other times. Their diet was largely vegetable, collected by women and children—fruits, yams, roots, nuts, seeds—accompanied sometimes by portions of meat from captured lizards, frogs, snakes and marsupials. Coastal dwellers snared fish in traps (vestiges of which can still be seen in some waterways) or speared them.

European settlers, mostly British, who arrived during the nineteenth century, came with ideas about food that accepted white wheaten bread and meat as central to their diet. Fruits, vegetables and dairy products were also important, although dripping and lard were to be used in many kitchens until after the Second World War. White settlers everywhere in Australia were forced to compromise ideas of diet with what the land would produce. Fertile land was quickly cultivated along the Swan River with a variety of foods. Government botanist James Drummond, who arrived in 1829, brought with him nine boxes of plants that included vegetables and fruits such as apples, cherries, pears, plums, peaches, olives and vines. He planted some of these on Garden Island, and by August 1829 Lieutenant-Governor Stirling was writing of newly grown potatoes that were ready to eat. Very soon his fellow settlers were working hard in kitchen gardens as well as in fields of wheat, corn and barley. By the 1880s the Agricultural Society of Western Australia was noting in its annual exhibition at Guildford that hams, bacon, butter, olive oil, bread, vegetables and fruits, wine and honey were among the exhibited produce. (Olive oil was used in lamps and for soap-making as well as in the kitchen.)

Immigrants during the 1890s, and again after each of the world wars, introduced new foods and new methods of cookery, but even in the mid 1930s there were more people living outside Perth than in the city and their diet continued to be influenced by the

Wellington St Open Markets in the early 1920s. Courtesy West Australian *(HIST5772)*

rural staples of meat (usually mutton), flour, tea, and golden syrup or jam with locally grown fruit and vegetables. In Perth, people supplemented their meals by catching river and sea fish, prising mussels from rocks and trapping prawns and crabs. Wildlife was not protected. Birds like swans and pelicans were also regarded as food, as were kangaroos large and small.

Increasing understanding of nutrition during the 1920s and 1930s was the impetus for greater concern about national health. The first nutrition survey of Australians was conducted between 1936 and 1938 by a newly established Advisory Council on Nutrition headed by the Commonwealth Director-General of Health, WA born Dr J. H. L. Cumpston. It found almost a third of children living in rural WA to be 'under-nourished' and more than a quarter of city children poorly fed. Concerned doctors pub-licised the value of fresh fruit and vegetables and promoted the idea of free school milk. The Free Milk Council of WA, established in 1936, supplied free milk to selected children in difficult circumstances. By 1941 free milk was available to over one thousand children in fifty-five schools in the state, mostly in Perth. In 1950 the scheme was subsumed by the Commonwealth government and by 1954 even remote schools were being offered milk, albeit tinned. In the early 1940s Oslo lunches of brown bread, fresh fruit, cheese

and salad were slowly introduced to some Perth government schools. These meals were inaugurated at Mount Hawthorn, Inglewood and Manjimup schools.

Information about diet and health could be gleaned from the newspapers like *The West Australian* and women's magazines. Western Australian cooks were also advised by *The Golden Wattle Cookery Book*, first published in 1926 (and still in print), compiled by Margaret A. Wylie and her staff at the Perth Household Management Centre. Food remained a woman's responsibility and home economics was taught in Perth from the early 1920s.

Apart from gender, social class is also important in food tastes and diet. In the early twentieth century French cooking was widely regarded as the best and most refined in the world. During the 1930s the Café Anglais in Murray Street and the Café Monte Carlo in Barrack Street apparently capitalised on this taste. Early in the same decade, in honour of the Russian dancer Anna Pavlova's visit to Perth, the Australian version of the pavlova was invented by Bert Sachse, a cook employed at Perth's splendid Esplanade Hotel.

During the Second World War, American servicemen based in Fremantle were fed Australian-grown produce. Between 1 January 1942 and 30 September 1944, Australian farmers supplied 1,500 million pounds of foodstuffs to the American armed forces including cereals, meats, fruits, vegetables, eggs, milk and milk products and sugar. The US Army had much more variety in its diet than the Australian and categorised food into seven groups; Australian nutritionists later settled for five.

Postwar mass migration also influenced food tastes as pasta and rice, tomatoes and olives, garlic and other herbs appeared more frequently in published recipes and on domestic tables. An awareness of how people in other countries ate was sustained in the 1950s by magazine articles, and in the 1960s by television programs. Travel and tourism played their part in this transformation of tastes too.

Diet is subject to fashion and expert advice, but also to the different influences of nostalgia and modernity. Home cooks may mix and match a variety of foods and cooking styles. Rice and pasta may appear on the same dining table as roast meats, potatoes and carrots, although usually at different meals. But eating reflects timetables as well. Cakes and biscuits are slowly diminishing in popularity as afternoon tea disappears from our social rituals. Convenience foods of all kinds, including canned, packaged, frozen and ready cooked, appeal to busy people. Despite a continuing interest in backyard gardening and home cooking, our diets today are influenced by commercial and marketing pressures. **Michal Bosworth**

See also: Aboriginal culture and society; Aboriginal land and people, south-west; Eating places; Food labels; Food processing; Food production, suburban; Gardens, domestic; Horticulture; Multiculturalism

Further reading: M. Bosworth, 'Conversations with Italian women: close encounters of a culinary kind', in R. Bosworth and M. Melia (eds), *Aspects of ethnicity in Western Australia: Studies in WA History* 12 (1991); M. Bosworth, 'Eating for the nation: food and nutrition on the homefront', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); M. Symons, *One continuous picnic: a history of eating in Australia* (1982)

Disability, intellectual During the nineteenth and very early twentieth centuries, intellectual disability in Western Australia, as elsewhere, was not clearly distinguished from 'insanity', either medically or legally. Considered 'incurable', the only treatment was custodial care in institutions such as Fremantle Lunatic Asylum, Fremantle Prison,

Whitby Falls and, after 1908, Claremont Hospital for the Insane.

During the first half of the twentieth century, custodial care within Claremont was the lot of most people with intellectual disabilities. The eugenicist movement of the 1920s provided a rationale for continued segregation and medicalisation of intellectual disability. The 1929 Mental Deficiency Bill proposed to segregate people with intellectual disabilities into their own custodial institutions. The Bill was not, however, passed and so segregation of adults and children within Claremont continued.

Changes began in the early 1950s, driven by parents of children with intellectual disabilities concerned by the prospect of their children being locked up in Claremont Hospital. In 1951 a group of parents, including Les Walter, Monica McGillivray and Gladys Newton, formed the Slow Learning Children's Group (SLCG) and a diagnostic centre named Irrabeena opposite Princess Margaret Hospital. Professional expertise, represented in particular by geneticist Dr Athel Hockey and child psychologist Dr Audrey Little, was made available through other agencies. The SLCG also began preschool classes for children, set up an occupational centre for older children, Minbalup, and established a farm colony, Hawkevale, in the early 1960s. It also established the first sheltered workshop in Delhi Street, West Perth, in the 1960s, setting up others in the 1970s. After SLCG changed its name to Activ Foundation in 1974, these became part of Activ Industries.

Also in the 1950s, the Education Department began to place children with intellectual disabilities in special classes in regular schools, offering skills and vocational training aimed at preparing adolescents for placement in the unskilled workforce.

In 1964 the Mental Deficiency Division of Mental Health Services was established, and Dr Guy Hamilton was appointed Physician Superintendent. Through his initiative Pyrton Training Centre was opened in 1966 and the transfer of children from Claremont Hospital began. Initially the primary caregivers were training assistants. Their role was to care for and train residents in social skills. In 1972 the process broadened to include behaviour management. 'Training assistants' were renamed 'social trainers' and their training included behaviour modification and behaviour management. A Domiciliary Service was created in 1973 employing social trainers to support clients and provide training for independent living.

By 1978 there were seventeen hostels. Residents were graded according to their level of ability. Training was aimed at facilitating a progression through to higher-skill hostels and eventually integration into the community. However, this flow-through model did not work and the focus shifted to seeking employment options directly from residential facilities.

In 1978 the Mental Deficiency Division became the Division for the Intellectually Handicapped; then in 1985 it became the Authority for Intellectually Handicapped Persons (AIH), a specialist authority separate from health services. AIH was charged with advancing the community participation of people with intellectual disabilities. The goals of deinstitutionalisation and integration into the community followed the principle of normalisation developed by Dr Wolf Wolfensberger in the United States in the early 1970s. This requires the utilisation of means that are as normative and socially valued as possible in developing the skills and behaviours of people with intellectual disabilities.

In 1992 the federal *Disability Discrimination Act* made it unlawful to discriminate on the basis of disability in work, education, accommodation and the provision of services. The following year the WA *Disability Services Act* introduced a wide definition of disability to include a range of impairments, including intellectual. The Act also established the Disability Services Commission (DSC).

People with intellectual disability now live and work independently in the community, although many remain in residential and institutional accommodation and in sheltered employment. In the 1990s Homeswest began constructing homes for people with intellectual disabilities. For some, integration into regular schools has become a reality. Some employers have shown a willingness to provide meaningful employment through, for example, Project Employment (renamed EDGE Employment Solutions in 1998), an agency developed by Gregory Lewis and Susan Robertson in 1984. Today the DSC and Activ Foundation advocate for the needs of people with disabilities in the community while continuing to provide individual and family support services where required. **Ross Gregory and Norman Megahey**

See also: Child development; Disability movement; Equal opportunity legislation; Eugenics; Mental health; Sport, disabled people

Further reading: E. Cocks, C. Fox, M. Brogan and M. Lee (eds), *Under blue skies: the social construction of intellectual disability in Western Australia* (1996); A. S. Ellis, *Eloquent testimony: the story of the Mental Health Services in Western Australia 1830–1975* (1984); M. Hamilton, *EDGE Employment Solutions* (2005); H. Hunt, *Our children: a history of the Slow Learning Children's Group of WA, 1951–1988* (1989)

Disability movement The disability movement in Western Australia has at different times comprised concerned community members, committed parents, enlightened professionals and MPs, and outspoken people with disabilities. From a background where custodial care, often with eugenicist motives, was the orthodox approach to dealing with people with disabilities, the movement has made significant advances.

Early proponents of enhanced opportunities for people with disabilities were the women who established the West Australian Braille Writers' Association in 1913. While early efforts to provide accessible educational materials for people who were blind commenced in the 1890s, the establishment of the association marked a new awareness of the need for educational opportunities for people who were blind.

During the early 1950s a number of parent groups were formed to secure educational and developmental opportunities for children with intellectual and physical disabilities. Struggling to cope with the needs of their sons and daughters and refusing to heed the conventional advice to leave their children in environments like Claremont Hospital for the Insane, these parents raised funds and established services that would develop their children's abilities and provide support to families. Organisations included the Slow Learning Children's Group (1951), the Mentally Incurable Children's Association (1954) and the Spastic Welfare Association (1951), forerunners to Activ Foundation, Nulsen Haven, and the Cerebral Palsy Association respectively. Government followed the lead of these parent-based services but the process of providing better educational opportunities and accommodation was slow.

The appointment in 1964 of Dr Guy Hamilton, himself a parent of a child with a disability, to head the Mental Deficiency Division within the State Mental Health Service moved the service's focus from exclusion and institutionalisation to assisting people with intellectual disabilities to lead a 'normal' life. This approach was consistent with the developing philosophy of 'normalisation'. The transfer of twenty children with profound disabilities from Claremont Hospital in 1974 to the smaller facility, Tresillian, marked significant progress in their living conditions. Charles Court's government's decision to accede to pressure from neighbours to close Tresillian caused huge controversy, mobilising support behind Friends of Tresillian and the parent group Watchdog in their goal to keep the facility open. Hamilton's internal advocacy

and the resignation of the Court government's cabinet secretary, Ray Young MLA, in July 1976, added considerable weight to the campaign. Eventually the government committed sufficient resources to ensure that children at Tresillian and another 209 children and adults with disabilities were more appropriately accommodated.

During the early 1980s new groups joined the ranks of the disability movement: parents of children with particular disabilities belonging to groups such as the Down Syndrome Association, and people with disabilities themselves. The latter, recently empowered individuals, used the momentum of the International Year of Disabled Persons (1981) to advocate recognition of their rights to participate in society as full citizens. Three organisations with a focus on disability rights were formed around this time: Citizen Advocacy (1980); Disabled Advocates and Self Help (1981), now known as People with Disabilities (WA) Inc. (PWDWA); and in 1987 the WA Association of Self Advocacy (WAASA), which was later de-funded. Significant state and federal legislation that advanced the rights of people with disabilities was enacted during this period, most notably the Commonwealth *Disability Services Act 1986* under the leadership of federal Labor minister for Community Services, Senator Don Grimes. Parent-led organisations successfully advocated for separation of the bureaucracy responsible for intellectual disability from the state's mental health service in 1986. Further advances were made in 1984, when the state's *Equal Opportunity Act* was amended to include 'impairment', and in 1992 with the passage of the federal *Disability Discrimination Act*.

In March 1995 the movement rallied under the leadership of the Developmental Disability Council (DDC) to address unmet accommodation and care needs. The Welcome Home campaign was successful in securing considerable funding from the state government but continued to lobby to address ongoing unmet needs. During April 1997 a coalition of DDC,

PWDWA and industry organisation ACROD (WA) rallied in Forrest Place, Perth, against the Howard government's funding cuts to disability advocacy and employment services. More than two thousand people attended the rally, the biggest in Australia. Judi Moylan MHR was demoted from her Family Services ministry five months later.

The disability movement continues as an informal coalition of parents, people with disabilities, advocacy agencies and service providers. While support services and opportunities have radically improved since the beginning of the movement, much work remains to be done. People with disabilities continue to be under-represented in many of the measures of wellbeing, such as employment, income level, higher education and home ownership. **Luke Garswood and Kaye Regan**

See also: Disability, intellectual; Equal opportunity legislation; Eugenics; Mental health; Sport, disabled people

Further reading: Authority for Intellectually Handicapped Persons, *An ordinary life: a community challenge* (1990); E. Cocks, C. Fox, M. Brogan and M. Lee (eds), *Under blue skies: the social construction of intellectual disability in Western Australia* (1996); D. Davidson, *Nulsen Haven (Inc): a history* (1993); H. Hunt, *Our children: a history of the Slow Learning Children's Group, 1951–1988* (1989); P. Laffey, *In Braille light: a history of the early years of the Association for the Blind of Western Australia* (2004)

Distance education The provision of distance education by the Education Department of Western Australia commenced in 1918 to provide tuition for children between the ages of six and fourteen years, geographically isolated from existing schools and beyond the scope of small rural schools. A uniquely Australian system of primary school tuition by correspondence, it was pioneered in Victoria and

New South Wales before its introduction into WA in September 1918, with two teachers and fifty-five students. It was not until the 1930s that correspondence classes formalised as the Western Australian Correspondence School.

Gradually, correspondence classes were extended to cater for more diverse groups: including children with special needs; students with disabilities; those with itinerant parents, or with no fixed address or temporarily living overseas. Post-primary education was also made available to students who had left school early. From 1926 students could study towards the Junior Certificate (a three-year lower-secondary certificate) and the Leaving Certificate (a two-year course of study leading to university entrance). In the same year, probationary and unclassified teachers were able to study for their basic teaching qualification through correspondence classes.

Radio became an important medium in supplementing the work of the Correspondence School, commencing with the introduction of daily broadcasts in 1940. Using the Royal Flying Doctors' two-way radio service, the first School of the Air was established at Meekatharra in 1959. The service was extended to Derby and Port Hedland in 1960, Kalgoorlie in 1962, and Carnarvon in 1968.

The fall of Singapore in 1942, and the threat that Australia too might be invaded by the Japanese, resulted in the closure of kindergartens, as parents were reluctant to permit their children to attend them. Recognising the need for a continuation of a program specifically designed for preschool children, the WA Kindergarten Union successfully lobbied the WA government to establish a Kindergarten of the Air. The program became popular and influential, reaching a far greater number of children than those who had actually attended kindergartens.

The end of the Second World War in 1945 was a turning point in the development of the Correspondence School, as the emphasis of its work shifted from compulsory school-aged children to adults and adolescents with special needs. The introduction of the Commonwealth Reconstruction Training Scheme heralded a compensating advantage of post-compulsory age enrolment through the Technical Correspondence School, an adjunct of the Perth Technical College. In 1950 the Education Department decided that the Correspondence School should provide instruction up to Junior Certificate and the Technical Correspondence School above that level. From 1941 provision was also made for various categories of children living overseas, including the children of service personnel.

In 1983 the WA Correspondence School amalgamated with the Isolated Families Early Childhood Correspondence Scheme and the Isolated Students Matriculation Scheme to form the Distance Education Centre catering for kindergarten to Year 12. With the addition of the five Schools of the Air (SOTA) in 1995, the Distance Education Centre became known as the Schools of Isolated and Distance Education (SIDE).

In 2005, SIDE catered for approximately 2,500 students on six campuses using technologies appropriate to their circumstances, including telephone, electronic and voice mail, audio teleconferencing, teletext, radio, audio graphics, television, facsimile and videoconferencing. **W. Ian Melville**

See also: Education, early childhood; Education, government secondary; Education, primary; Royal Flying Doctor Service; Technical education

Further reading: D. Mossenson, *State education in Western Australia, 1829–1960* (1972); Schools of Isolated and Distance Education, http://www.side.wa.edu.au; M. A. White, 'The history of correspondence education in Western Australia', Masters thesis, UWA (1962)

Domestic work Housework has almost always been done by women, a pattern of sexual division of labour that colonial Western Australia

inherited from Britain. However, the prescription that men would support their families by paid work and their wives would run the home allowed variations in practice. In the new colony, women and girls from farms often worked outside the house. In the bush and the towns, women grew, made and sold produce and provided services, thus contributing to the family income. However, in the later nineteenth century, new evangelical Christian doctrines strengthened the sexual division of labour by inscribing women as 'angels of the hearth'. From then on, formal and informal rules prescribed an increasingly rigid doctrine of separate spheres. Female paid work was largely reserved for single women and girls.

In many nineteenth-century households, domestic servants did the housework, although there was a shortage of such servants from the 1860s onwards. In middle-class homes, working-class girls (sometimes Aboriginal) washed, cooked, cleaned and looked after children. For over one hundred years domestic service was the major source of paid employment for females; indeed, it was often the only source of income for self-supporting women with no other work skills. It took the new work openings for women and the manpower regulations of the Second World War to end domestic service as a major source of female employment. Since the 1970s many working-class women have again taken up house-cleaning and child-minding work for middle-class women coping with the demands of paid and unpaid work.

In the early twentieth century, and in the context of perceived fears about the future of the white race, social reformers looked at the home and thought it needed to be strengthened. New doctrines of efficiency were applied to cooking, housework, childbearing and childrearing. 'Domestic economy' courses were introduced in state schools in 1900 to teach girls the proper, scientific way of doing housework. Labour-saving devices were also gradually introduced into homes, but their availability depended largely on a family's

A young woman prepares to use a Sunbeam Mixmaster at the kitchen table, Cockatoo Island, 1953. WA Government Photographer, Courtesy Battye Library (000301D)

income and access to electricity, which in turn depended on geographical location. By 1910, electricity used for lighting was widespread across Perth, and electricity used for household appliances was ubiquitous by 1947. However, in 1947 only 45 per cent of country homes had it; and well after the introduction of electricity, gas and wood remained the most common fuels for country cooking.

Whether science and technology made housework any easier is a matter for debate. Some say 'no', citing the need to fulfil new, exacting standards of housewifery set by the experts; other say 'yes', and use washing machines as an example, in ending of the heavy labour of laundry. Rare in Perth in 1929, washing machines spread slowly across the state, arriving in parts of the country in the late 1950s. Technological advances and ever-changing scientific advice, for example on nutrition, continue to change the face of the home and demand that home workers invest time in learning new approaches.

Although there have been many changes to the nature of domestic work, the sexual division of labour in the home remains largely unchanged. Since the Second World War, the number of married women doing paid work

has constantly increased to the point where more than 60 per cent of married women now do so. Surveys have also shown that women also still do the bulk of housework and child-rearing (about 70 per cent in 2006). Some 'family friendly' government policies make it easier for women to maintain two jobs, but other government policies encourage women to stay at home. Women's role in the workplace remains a controversial issue. **Charlie Fox**

See also: Gender; Work, paid; Workers
Further reading: R. Barton, 'Household technology in Western Australia 1900–1950', *Oral History Association of Australia Journal,* 7 (1985); C. Fox, *Working Australia* (1991); K. Reiger, *The disenchantment of the home: modernising the Australian family, 1880–1940* (1985)

Dominion League The Dominion League of Western Australia with *Sunday Times* editor A. H. Chandler as its first president was formed at a public meeting on 5 May 1930, shortly after Sir James Mitchell had regained power at the head of a Nationalist–Country party coalition government. The new organisation was a direct descendant of the increasingly inactive Secession League, which was first established in August 1926 with the object of securing Western Australia's secession from the Australian Commonwealth.

Within a few months the Dominion League was said to have a membership of 30,000, though this figure is probably exaggerated. Following a lukewarm response from Mitchell to its proposals for a secession referendum, the League responded with a constant round of meetings in both city and country, and at the second attempt parliament passed a bill towards the end of 1932 providing for a referendum to be held, with voting compulsory, in conjunction with the 1933 state election. The League's campaign was led by Perth accountant and future state member of parliament H. K. Watson. On polling day electors voted

two to one in favour of secession and comfortably defeated the alternative proposition of a federal convention to consider amendments to the Constitution.

Despite its victory at the ballot box, celebrated at a Grand Victory Festival on 10 May 1933, the Dominion League found itself increasingly hampered by the slow approach adopted by the new Labor Premier Philip Collier, a declared anti-secessionist, and there were no government representatives either in the group appointed to prepare the case for secession or among those who took the petition to London. The omission of the ageing Chandler from these bodies contributed to a major break between him and his newspaper and the officials of the League, including Watson. The rejection of the secession case by the UK parliament and improving economic conditions alike saw the Dominion League become moribund, and by the early 1940s it had faded out of existence. **David Black**

See also: Depression; Secession
Further reading: G. Craven, *Secession, the ultimate states right* (1986); H. C. J. Phillips, 'Henry Keith Watson', *Australian dictionary of biography* (2002); G. S. Reid, 'Western Australia and the Federation', in R. Pervan and C. Sharman (eds), *Essays on Western Australian politics* (1979)

Dragon Boat Festival *Duan Wu Jie*, or the Dragon Boat Festival, is celebrated on the fifth day of the fifth lunar month, and is an important observance in the Chinese cultural calendar. The occasion involves the racing of dragon boats and the eating of glutinous rice dumplings wrapped in bamboo leaves, known as *zongzis*. Legend tells the story of Qu Yuan, a minister in the state of Chu in 288 BC, who committed suicide by drowning himself in the Mi Luo River, in protest at the king ignoring his advice. The people beat drums to scare off the fish and threw rice dumplings into the river for Qu Yuan's departed soul. Local

celebrations tend to be family-oriented, unlike Chinese New Year, which is also marked by large-scale community events such as concerts and dinners.

Traditionally dragon boat races are held in June, however in WA they are conducted in the warmer months from October through to April. Dragon boat racing has been a team sport in WA since 1980.

The Chung Wah Association joined the sport in 1984 and became co-founder of the Western Australian Dragon Boat Association Inc. (WADBA) in 1985 with three other clubs. Between 1986 and 1990 the two associations co-hosted several international dragon boat competitions. The first Festival in 1986 was held as part of the America's Cup Challenge. International teams have come from Singapore, Hong Kong, Taiwan and the United States of America. Festival races included men, women and mixed crews, as well as novice and corporate team events to encourage greater interest and involvement. The inaugural state Dragon Boat Championships were held along the Burswood foreshore in 1990.

The long, narrow dragon boats carry a standard twenty-two-member crew: twenty paddlers, a drummer at the bow and one tiller at the rear to steer the craft. A decorative dragon's head adorns the bow with a tail at the stern. However, boats can vary in size and hence crews can have between ten and fifty paddlers. Initially boats were imported from overseas, however, a local manufacturer soon started making the hulls.

Local Chinese participation has given way to more sports-orientated groups. Many local clubs have derived from surf lifesaving clubs, which conduct regular team races with weekly training for men and women. These clubs continue to travel overseas to compete in races held in Hong Kong and China in May and June for the traditional racing period.
Kaylene Poon

See also: Asian immigrants, twentieth century; Chinese New Year; Multiculturalism; Rowing

Further reading: Chung Wah Association, *75th Anniversary Chung Wah Association, 1910–1985: commemorative book* (1986)

Drama festivals Competitive drama festivals for amateur repertory clubs have had a special significance for regional Western Australia. Whereas cultural festivals such as the Perth International Arts Festival attract mainly metropolitan audiences, and emphasise the consumption of imported events, statewide and regional festivals stimulate local productions with local talent. They are a part of the ongoing activity of the participating clubs.

The 'little theatre movement' developed more strongly and more extensively here than it did in other states. The Perth Repertory Club (1919) provided leadership and by 1935 had a membership of more than one thousand members and nineteen affiliated metropolitan and regional repertory clubs. Out of this movement grew a desire for a competitive drama festival.

An editorial in *The West Australian* on 2 October 1937 (probably written by Paul Hasluck, the paper's drama critic 'Polygon' from 1933–38) was the launching pad. That evening the curtain rose at His Majesty's Theatre on the West Australian Drama Festival. The statewide festival, the first in Australia, was jointly sponsored by the Repertory Club and *The West Australian*. It was organised by the newly formed West Australian Theatre Council.

The Festival presented four full-length plays competing for the *West Australian* prize of £20. It was won by Lily Kavanagh's production of the Spanish romance *Cradle Song*, for the Pleiades Club. Howard Smith's production, for the Workers' Art Guild, of Albert Maltz's play *Private Hicks* won the one-act play competition for *The Western Mail* prize of £15. There were seventy-nine entries in the 'original play by an Australian author' and Western Australian Phyllis Harnett won the £10 prize with *I Am Angry*. Close on

six thousand people attended the week-long festival. Alexander Turner, whose three-act *Royal Mail* won the 1939 prize, was one of several playwrights to emerge from these prewar drama festivals.

Annual one-week drama festivals were held at His Majesty's Theatre until 1940. War-time constraints on manpower and resources put the festivals on hold until, at the instigation of the University Dramatic Society in 1948, fifteen amateur groups formed the Theatre Council of Western Australia. From 1949 until its demise in 1970 the Council stage-managed annual drama festivals at the Assembly Hall under the direction of Dorothy Lyall.

The Therry Society (1944), a Catholic lay apostolate group 'dedicated to Christianising the theatre and the study of the liturgy', sponsored the Catholic Schools drama festival in 1961. It expanded in the late 1970s into the Performing Arts Festival for Catholic Schools and Colleges. It is currently one of the largest festivals of its kind in Australia.

Claremont, Graylands and Nedlands teachers' colleges participated in interstate festivals, in which drama was a competitive component, with South Australian teachers' colleges. The colleges visited each other in alternate years, from the early 1950s until the late 1960s. Similarly, local universities, particularly The University of Western Australia (UWA), participated in much longer established inter-varsity drama festivals.

The Festival Fringe (1983), concurrent with but alternative to the Festival of Perth, changed its name to Artrage in 1988 and its calendar to October. (It has now reverted to February–March.) It is a high-profile platform for the new, the experimental and the innovative with theatre the most prominent art form. The Awesome Festival (1995) is a ten-day international cultural event for young people, instigated by Graham Gavin and the Barking Gecko Theatre Company.

In 1984 the UWA English Department developed a biennial Winter Theatre Festival in the town of York. Bill Dunstone was artistic director for the five festivals (the last was in 1992) and Jan Keeley the York organiser. The festival brought together youth, community, amateur and professional groups over the June long weekend.

City councils such as Cambridge and Joondalup conduct comprehensive arts festivals at the present time and theatre is a significant component.

There is still a place for the competitive drama festival. Each September the Bunbury Repertory Club organises the South-West Drama Festival, while in the metropolitan area the Independent Theatre Association (ITA), the umbrella organisation for amateur theatre, stages a One-Act Drama Festival. The ITA's Robert Finley Award is awarded to the member club deemed to have had the best full-length production on the basis of judgements made throughout the year. **David Hough**

See also: Children's theatre; Festival of Perth; Music festivals; Performing arts criticism; Puppetry; Theatre, amateur; Theatre and drama; Youth theatre
Further reading: G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); P. Hasluck, *Mucking about* (1977); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004); P. Parsons (ed.), with V. Chance, *Companion to theatre in Australia* (1995)

Dreaming of the Seven Sisters The 'Dreaming of the Seven Sisters' is one of the most important spiritual and cultural traditions for Aboriginal women, both in Western Australia and elsewhere in Australia. It stems from the Dreamtime. Known by various Indigenous names, such as Kungakungaranga, Maimai, Nagarra Ngarra and the Wongai women, which reflects the cultural and linguistic diversity of Australia's Aboriginal peoples,

its ceremonies, rituals, songs and dances tell the story of seven young maidens who came down to Earth from the Pleiades star cluster and then returned to their origins. The 'Dreaming of the Seven Sisters' echoes similar themes in world mythology surrounding the Pleiades, many of which tell of a chase involving all of the Sisters by an older, amorous man (usually Orion, Venus or the Moon) and the capture of one of them (usually the youngest). Eventually she manages to flee from her captor with the aid of her sisters, but even today, according to legend, the Old Man can still be seen pursuing the Sisters across the night skies. Other themes emphasise the Sisters' connection with water, and in this regard they bear some resemblance to Ancient Greek mythology of the Pleiades that describe them as oceanids, or water nymphs. This has particular meaning for Aboriginal people, who live on the world's driest continent. Thus its symbolism not only alludes to the waters of creation but to human survival. Also associated with caves and a high hill or series of seven hills, the sisters' exploits are recorded in the cultural and physical landscape of the continent, such as the Balgo Hills of WA (Wirrimanu). Many Aboriginal tribes regard the Sisters as their Ancestors and claim relationship to them. The stars of the Pleiades played an important role in Aboriginal calendars, which marked the seasons and ceremonies such as the initiation of young Aboriginal boys and girls. Their reappearance at dawn in the summer skies often heralded this rite of passage. Elsewhere around the world, the rising of the stars of the Pleiades once marked the beginning of the New Year, and there are some scientists who believe that a Pleiades calendar may even have preceded the solar and lunar calendars. **Munya Andrews**

See also: Aboriginal culture and society; Waakarl
Further reading: M. Andrews, *The Seven Sisters of the Pleiades* (2004); G. Green,

J. Trammacchi and L. Gill, *Tjarany: tjaranykura tjukurrpa ngaanpa kalkinpa wangka tjukurrtjanu—Roughtail: the dreaming of the roughtail lizard and other stories told by the Kukatja* (1992); M. O'Brien, *The legend of the Seven Sisters: a traditional Aboriginal story from Western Australia* (1990)

Drinking alcohol has been a standard social activity in Western Australia since 1829. When the colony was founded, alcoholic beverages were part of the staple diet of British people and the new settlers took to drinking all the more readily to help offset the hardships of the pioneering lifestyle. Whisky, rum and brandy were among the main items traded to the Swan River during those early days, such that import duties on liquor became the leading source of revenue for the colony's government. Alcohol even functioned as a form of currency, with labourers often being supplied one-third of their wages in spirits, amounting to 54.5 litres per man in 1836. When the first commercial brewery began production in 1837, Perth already had a licensed house for every 75 people; widespread public drunkenness and a relative abundance of inns and taverns were features of the colony typically commented upon by visitors. Home-brewing and sly-grog selling were commonplace after 1850, to circumvent the official ban on drinking by convicts imposed at the beginning of transportation. During the gold rushes consumption peaked at over twice the levels of the other colonies. Beer became especially popular in the 1890s, supplied by the Swan and Emu breweries in Perth and Hannan's at Kalgoorlie to hotel bars across WA. Alcoholism remained the most common metabolic disease throughout the colonial period.

The appearance of hotel lounges catering to women in the 1920s foretold a major shift in drinking habits, the start of the slow process whereby drinking ceased to be synonymous with masculinity. Another crucial

shift began in the 1950s, when the advent of drive-through bottle shops led to rising sales of packaged liquor for consumption in private. In the 1970s a wave of legislative reform heralded further change, as stand-alone bottle shops emerged across the suburbs, and alcohol became readily available in cafés and restaurants. More recently, alcohol has been sold within designated controlled areas within supermarket premises. In the 1980s and 1990s drinking shifted still further from its nineteenth-century character, as boutique beers captured a greater share of the market, and Western Australians increasingly discovered that their state produced some of the finest wines in the world.

Drunkenness has been implicated in a substantial majority of the crimes brought before Western Australian courts since 1829, ensuring alcohol has been an eternal source of public controversy. A temperance society was active as early as 1833 and by the 1870s there were a number of temperance lodges in the colony and a temperance newspaper, *The Temperance Advocate.* The movement to discourage or outlaw drinking remained strong well into the twentieth century. During the Great War, total abstinence, early closing and 'anti-shouting' groups all flourished, and although hotels were restricted to trading between 9 a.m. and 9 p.m., WA never adopted the more draconian measures of other states. The prohibition movement gained strength in the 1920s, but at a referendum in 1925 the public voted heavily in favour of their right to drink, a similar referendum in 1950 returning the same result. Sunday trading, first banned in 1839, became legal again in the metropolitan region in 1970, with a corresponding reduction in the age for entry to public bars to eighteen. Not long before this the WA tradition of the 'Sunday Session' had been born, when hotels just outside the metropolitan area, which were permitted to open on Sunday afternoons, began to engage live bands, thus attracting hundreds of young people from Perth.

In 2000/01 Western Australians over fifteen years of age consumed an average of 11.12 litres of alcohol each, a rate of consumption second only to the Northern Territory. **Joseph Christensen**

See also: Brewing and breweries; Colonial health; Diet; Drug use; Hotel industry; Public health; State hotels; Wine; Women's Christian Temperance Union
Further reading: C. de Mori, '*Time, gentlemen': a history of the hotel industry in Western Australia* (1987); S. Welborn, *Swan, the history of a brewery* (1987)

Drug use In nineteenth-century Western Australia a wide variety of medicines were opium-based and easily bought from chemists and grocers. Cannabis was also occasionally used medicinally. Opium use was traditionally associated with the Chinese population and 'opium dens' were well-known wherever Chinese labourers congregated. King Street was the centre for opium smoking in Perth, and even as late as 1938 the Royal Commission into Slums revealed the existence of opium dens in East Perth. Fremantle, too, had its well-known dens. There has been little historical research into such drug use in WA, but annual displays of opium poppies emerging every September in the older suburbs of Perth and Fremantle still bear witness to its prevalence.

The late nineteenth-century profile of drug dependence, a profile that remained largely unchanged until the 1960s, implicated white, middle-class, middle-aged women or health professionals. However, the first restrictive drug laws in Australia, in the 1890s, targeted smokeable opium, a substance used primarily by Chinese and Aboriginal communities. These laws eventually outlawed opium-smoking altogether, as well as the sale of opium or alcohol to Aboriginal peoples. The consumption of opiates and cocaine within patented medicine by white Australians was unaffected.

Cigarette manufacture and supply spread to Australia in the decades after 1850, and tobacco products were easily available and widely used. Alcohol was also heavily consumed, and, despite the rise of temperance movements in the nineteenth century, it was defended as a drug of choice that should be available to the white community. Nonetheless, ideas began to change regarding drug use and the label of 'illicit drug'. The regulation of the manufacture, sale and use of previously uncontrolled drugs such as morphine, heroin, cocaine and medicinal opium was introduced at state level between 1913 and about 1930. In WA they were regulated through the *Police Offences (Drugs) Act 1928*. The medical use of heroin was phased out in the mid twentieth century, though it was still used in cough medicines up until 1949. In 1953 there was a statewide prohibition of heroin manufacturing despite opposition from the medical profession.

The medical profession grew in strength during the twentieth century, and medicines once dispensed by grocers and chemists were brought under its control. Drug use was legal only for purposes prescribed by medical experts, and drug addiction, from this time, was viewed as a sickness. Until their use was phased out after the Second World War, Australians were among the world's highest users of opiate- and heroin-based medicines. Australia had the highest usage of legal drug-taking, and women were often prescribed a Bex or aspirin, phenacetin and caffeine (APC) tablet for nervous tension. These years also saw the erosion of cigarette-smoking as a specifically male preserve: about three-quarters of the adult male population smoked and one-quarter of the female population. During the 1950s and 1960s medical research highlighting the physical and fatal effects of smoking began to circulate within the public sphere.

Cannabis, little used until the 1960s, was first regulated in WA by a Proclamation made in 1950 under the earlier 1928 *Police Offences (Drugs) Act.* During the 1960s and 1970s illicit drug use, especially of cannabis, became more visible in society and drug dependence was increasingly seen as a social problem. Nationally, non-medical use of drugs, previously controlled by poisons legislation, became regulated by statutes with a criminal justice orientation that carried more stringent penalties for infringement. In WA the 1981 *Misuse of Drugs Act* made it illegal to use, possess, manufacture or supply illicit drugs. An amendment to this legislation occurred in 2004. In WA in the early twenty-first century, alcohol, cannabis and amphetamines appear to be the most used and are also the main drugs of dependence, closely followed by heroin. **Anna Kesson and Paul Laffey**

See also: Anti-smoking campaign; Drinking; Pharmacy; Police and policing; Public health; Women's Christian Temperance Union
Further reading: D. Manderson, *From Mr Sin to Mr Big: a history of Australian drug laws* (1993)

Dutch The Dutch have been coming to Western Australia since 1616 when Dirk Hartog made landfall on the west coast island that bears his name. In his ship's log notes he called the country *Het Landt van de Eendracht* (Harmony Land) after his ship. Many *Vereenigde Oost-Indische Compagnie* (VOC—Dutch East India Company) trading vessels foundered on the WA coast and the marooned are mooted to have cohabited with Indigenous Australians. The visible legacy of early Dutch encounters with the WA coastline is found in geographical names such as Rottnest, Leeuwin, Houtman's Abrolhos, the Geelvink Channel and the Swan River (*Swaene Rivier*) named by Willem de Vlamingh in 1696. VOC ships stopped coming to WA when the company collapsed in 1796.

The Dutch presence as settlers in WA was negligible until the Pacific War 1942–45, when the allied Dutch air force and navy assisted with Australia's defence. Netherlands East Indies (NEI) military personnel were evacuated to WA; some evacuees died when the Japanese bombed Broome in March 1942. Other Dutch prisoners of war from Japanese concentration camps were also rehabilitated in WA at the close of the Pacific War.

Dutch numbers increased when the Netherlands Australia Migration Agreement (NAMA) and the Netherlands Government Agency Scheme (NGAS) passage assistance schemes commenced in 1951. Dutch migration to WA peaked between 1954 and 1956 when 8,441 Dutch (4,824 males; 3,617 females; 40 per cent children) settled in WA, enticed here by the full employment economy, good working conditions and the prospect of home ownership. Most were working class. The 40 per cent who received Australian government assistance were compelled to work for two years wherever the government chose, or to repay the fare. The remainder were either full-fare passengers or received passage assistance under a private scheme. The Dutch numbers do not include those Dutch-born in the NEI, who were classified as Indonesian. Dutch from the NEI had to prove they were 51 per cent white to gain entry to White Australia. Some working-class Dutch spoke a little English picked up after the war from Canadian and British liberating troops; middle-class Dutch immigrants were more likely to have studied some English at school.

A decline in Dutch migration occurred after the rapid expansion of the Netherlands economy in the 1960s, and between 1961 and 1966 nearly one thousand Dutch left WA to return to the Netherlands. Despite this, Dutch numbers in WA continued to rise to nearly 12,000 by the mid 1980s. At the 2006 census, natural attrition had reduced this number to 10,114. The 2006 census ancestry question attracted over 40,000 claims to Dutch heritage.

Compared to other ethnic groups, Dutch migration was overwhelmingly family oriented, the result of policies in both the Netherlands and Australia. In line with recruitment procedures, around 45 per cent of the males selected to come to Australia were classified craftsmen (carpenters, fitters, painters, electricians and bakers), in contrast to only 17.9 per cent of the local workforce. On the other hand, 13.2 per cent were tertiary workers, compared to 31.3 per cent of the local workforce. The balance were semi-skilled workers, unlike most other southern European postwar migrants or displaced persons of non-English speaking background. More of the second-generation Dutch became self-employed than their parents' cohort.

During the 1950 and 1960s few first-generation Dutch women entered the workforce. More Dutch Catholics than Protestants came to WA, and Dutch (Free) Reformed church groups settled in Armadale and Albany. The Dutch are otherwise not spatially concentrated, with most Dutch living in outer metropolitan suburbs or the Hills. The Clubhouse Neerlandia in Wembley organises social and cultural events and has an aged care facility. The Associated Netherlands Societies of WA has a younger membership whose brief is to help preserve the state's Dutch cultural heritage. **Nonja Peters**

See also: Dutch maritime exploration; Migrant ethnic associations; Migrant reception; Migration; Plates, Hartog and Vlamingh **Further reading:** N. Peters, *The Dutch Down Under, 1606–2006* (2006); N. Peters, *Milk and honey – but no gold: post war migration to Western Australia, 1945–1965* (2001)

Dutch maritime exploration of WA began when ships of the Dutch United East India Company (*Vereenigde Oost-Indische*

Compagnie, or VOC) accidentally encountered the west coast of the continent during the early part of the seventeenth century. They had been following the Brouwer route to the Indies, sailing east from the Cape of Good Hope with the prevailing westerly winds for about 7,500 kilometres, before heading north to Java. However, at that time it was impossible to determine longitude accurately, and consequently it was inevitable that a Dutch ship would eventually sail too far east and encounter the Western Australian coast.

The first VOC vessel to do so was the *Eendracht*, skippered by Dirk Hartog. On 25 October 1616, crew of this ship landed at Cape Inscription on Dirk Hartog Island, leaving a record of their visit inscribed on a flattened pewter plate, nailed to a post left upright in a cleft of rock on the cliff top. As a result of Hartog's discovery, the hypothetical continent hitherto shown on world maps as *Terra Australis Incognita* was replaced by *'t Landt van d'Eendracht*—the Land of the *Eendracht*. This name continued to be used for the Australian continent by the VOC for more than 150 years, although it was replaced in common usage after Abel Tasman's voyage of 1644 by the term *Nova Hollandia*—New Holland.

Many Dutch vessels encountered parts of the Land of the *Eendracht* during the next few years. The North West Cape area was sighted by crew of the *Mauritius* in 1618, naming *Willems Rivier* (probably Yardie Creek) after the ship's supercargo, Willem Jansz. In 1619 the *Dordrecht* and the *Amsterdam*, commanded by Frederik de Houtman, sighted parts of the coast between about Mandurah and Kalbarri, giving the coast the name *d'Edels Landt* after Jacob d'Edel, a high official of the VOC travelling in the *Amsterdam*. Another name resulting from that voyage was Houtmans Abrolhos, for the hazardous islands and reefs that still bear this name.

In 1622 the *Leeuwin* sailed along the south-west coast between about Cape Leeuwin and Black Point, giving the name *'t Land van de Leeuwin* to that area. The first ship to sail along the main part of the south coast, as far east as the Nuyts Archipelago in South Australia, was the *Gulden Zeepard* in 1627. It had on board Pieter Nuyts, a high official of the VOC, and this long part of the south coast was named after him as *'t Landt van P. Nuyts*. In 1628 the *Vianen*, commanded by Gerrit de Witt, sailed along the coast near Onslow, and this was named *G. F. de Wits Landt*.

The north-west coast of Australia was first mapped in 1644 by Abel Tasman, in the ships *Limmen*, *Zeemeuw* and *Bracq*. On this voyage Tasman charted the north and north-west coast of the continent from Cape York to near Coral Bay. Unfortunately the journal of this voyage has not been located.

Much of the coastline between Rottnest Island and Shark Bay was charted in 1658 by Samuel Volkersen of the *Wackende Boey* and Aucke Pieterszoon Jonck of the *Emeloort*, while searching for survivors of the ship *Vergulde Draeck*, which had been wrecked near Ledge Point in 1656.

Exploration of the coast between Rottnest Island and North West Cape was carried out in 1696–97 by Willem de Vlamingh, commander of three ships, the *Geelvinck*, *Nyptangh* and *Weseltje*. Vlamingh discovered and named *Rottenest Eylandt* (Rottnest Island), *Swane Rivier* (Swan River) and several other features along the coast. Members of his party explored the Swan River area on foot—the first Europeans to conduct significant land exploration in Australia. **Phillip E. Playford**

See also: Dutch; Plates, Hartog and Vlamingh; Shipwrecks; Vlamingh's journey
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); P. E. Playford, *Voyage of discovery to Terra Australis: by Willem De Vlamingh in 1696–97* (1998)

E

Eastern Goldfields The first significant discoveries of gold in reefs (parent rock) east of Perth were made almost simultaneously in 1887 by several government and privately sponsored prospecting parties 200–250 kilometres east of Northam. In the following year, the core reef area, named Southern Cross by its finders, was proclaimed as the Yilgarn Goldfield when Western Australia's first and only locally financed mining companies were formed. Southern Cross, with its hotel and stores, was declared a townsite in 1890.

Experienced prospectors, previously enticed into WA by minor finds along the northern and north-western parts of the colony, moving south from the Murchison field (1891), began to use Southern Cross as a forward base from which to fan out in search of more gold. Among them were William Ford and Arthur Bailey, whose registration on 17 September 1892 at Southern Cross of a magnificent find of reef and alluvial gold 200 kilometres east at Coolgardie initiated Western Australia's first full-scale gold rush.

In the course of a mad rush of hundreds of men from Coolgardie to a non-existent goldfield at Mount Youle, Pat Hannan and Tom Flannigan found reef and alluvial gold, in June 1893, on the south side of a north-western/south-eastern trending ridge at Kalgoorlie, 40 kilometres north-east of Coolgardie. Within days, thousands of men rushed the area from Coolgardie, where much of the easily won gold had already been taken.

On 15 September 1893 William (Willie) Brookman, a clever but failed South Australian businessman and brother of Adelaide Lord Mayor George Brookman, registered at the Coolgardie warden's office a protection area measuring 300 by 300 yards. The actual find was made by Sam Pearce, Brookman's companion, a skilled and experienced prospector with an eye for gold country. The find consisted of a series of parallel lodes consisting mainly of a new and unfamiliar doloritic formation. Unlike the quartz with which gold was normally associated, this gold was finely divided and not immediately visible. Hidden by trees about three kilometres from the thousands milling around Hannan's find scratching for alluvial gold, Brookman and Pearce found and laid claim to almost the entire Golden Mile. Their leases (regarded at the time as 'sheep runs') included Great Boulder, Lake View Consols, Associated Mines, Ivanhoe, Kalgoorlie Mint, Lake View South and Lake View Extended.

Unlike Bailey and Ford, who had promptly sold 'Bailey's' find to Melbourne speculator-developers for £5,000, Brookman and Pearce were part of an Adelaide syndicate. With this backing, and in order to fulfil the *Mining Act*'s conditions that reef claims be worked or else forfeited, they employed 400 men who were set to work 'dollying' gold to pay their own wages. The men's mining camp became the nucleus around which Boulder was founded.

By contrast, Kalgoorlie, at the other end of the ridge and situated close to the June 1893 Hannan–Flannigan alluvial find, took a different turn. It rapidly replaced Coolgardie as the Eastern Goldfields' regional centre and forward base for professional, administrative, educational, health, retail, service, transport and gold prospecting services, a position it holds to this day.

*Camp, Londonderry Mine, Coolgardie, c. 1895.
Courtesy Battye Library (000664)*

Fanning out from Coolgardie and Kal-goorlie, prospectors soon discovered a 200 mile north–south belt of auriferous country stretching from Gwalia–Leonora and Laverton in the north through Menzies and Kalgoorlie, to Norseman in the south. This enormous area was subsequently divided into six new goldfields: Coolgardie (1894); East Coolgardie—actually Kalgoorlie-Boulder (1894); North-East Coolgardie (1895); North Coolgardie (1895); Broad Arrow (1896); and Mount Margaret (1897).

By 1901 there were 59,000 people living on the WA goldfields. This was 6,000 more than the total population of WA in 1891. Almost 80 per cent were living on the Eastern Goldfields, where 13,000 out of the state's 20,000 goldfield miners were employed, mostly as company wage workers. The ratio of males to females in the colony as a whole was 2:1 in 1896 and in the Eastern Goldfields the proportion of men was far higher.

The Coolgardie and Kalgoorlie gold rushes made world news. Between 1894 and 1897 alone, 908 Western Australian mining companies were floated on the London Stock Exchange. By 1904, when the 'Westralia Craze' ended, 1,235 companies had been floated—most of which never paid a dividend. In January that year, the trial and suicide in the Old Bailey of the convicted arch mining share manipulator and mining engineer Whitaker Wright brought the Exchange to its senses.

At the height of the Craze, the Adelaide syndicate (of which Brookman and Pearce were shareholders) had floated their sound and profitable Golden Mile companies on the London Stock Exchange. At the syndicate's dissolution in 1898, members had by then received, by way of capitalisation and dividends, an estimated £30,000,000 from the Brookman–Pearce discoveries.

The discovery of Coolgardie and Kalgoorlie, and the free flow of British money and migrant labour into WA, opened the way for John Forrest, the first premier of a self-governing WA, to implement a detailed long-range plan he had already laid down in a speech to the electors of Bunbury on 22 November 1890. Backed by gold, he aimed to end the colony's sixty years of genteel poverty and despondency.

Forrest's program, which he carried out almost to the letter over the next ten years, involved public borrowings of millions of pounds for a development program designed to cater for the gold industry as it grew—such as ports and harbours (especially Fremantle), railways (especially the Eastern and Murchison Goldfields railways), the Coolgardie Water and other water schemes, telegraphic services and often magnificent post office buildings. And, in order to keep the migrants in WA after the gold ran out, he initiated a scientific agricultural land development program, backed by an agricultural bank, with which to lay the foundations of what became the Wheatbelt. In addition, he improved urban living standards, including a new state library, museum and art galley complex in Perth. However, Forrest's great dream could not have been turned into reality without the Herculean efforts of C. Y. O'Connor, the colony's first chief engineer and director of public works.

By the time Forrest resigned as premier in 1901 to enter federal politics, the population of WA had grown more than fourfold from 46,000 in 1890 to 184,000. Between 1890 and 1903 an estimated 539,000 people

moved into and out of WA by sea. Although 55,000 came from the British Isles, by far the biggest contingent came from Victoria. There, the 1893 bank crash had created such mass unemployment (and even starvation) that men in their thousands fled to the fields of WA, where tales of easily won surface and shallow deposits of gold made the Eastern Goldfields appear especially attractive. There were also many thousands from South Australia and New South Wales—of the latter most were from Broken Hill. It was no accident, therefore, that the overwhelming majority of those on the fields were called 't'othersiders'.

There was also a significant 'ethnic' population on the goldfields, with Chinese, Germans and Italians predominating. Discriminatory legislation prevented Chinese, Afghans and other non-Europeans from working in mines, and many worked on the woodlines that supported the gold mines. In the early 1900s policy changes led to campaigns to attract miners from overseas, and Italians, for example, emigrated to work as miners at Gwalia.

In the early years living conditions were primitive. Shelter was under canvas, the climate was rigorous, water supplies were scant, fresh food limited, conditions insanitary, and typhoid was rife. It spread rapidly with more than 11,000 cases and over a thousand deaths reported in the Eastern Goldfields in the years leading up to 1900.

During the 1890s there were four distinctive types of goldfielders. First, a pioneer nomadic group of a few hundred independent-minded bushman prospectors (mostly of Irish and Scots descent) who moved from prospect to prospect and even from country to country in search of the reef gold and the mother lode. Second, 'swampers' or alluvialists who, in thousands, were only eager to rush newly discovered patches of alluvial gold from which to extract gold by hard, back-breaking winnowing and dry blowing techniques. Third, a much larger and more settled group of salaried and waged mining-company workers. And fourth, goldfields store and hotel keepers, nurses, barmaids, washerwomen and prostitutes, living mainly in mining towns to which married women with families would only come when living conditions improved.

Alluvial miners, armed with a Miner's Right, generally worked with one or two mates on registered claims. The cost of food and ever-scarce water (derived mainly from condensers) was high, especially away from the towns. Consequently, most alluvialists made little more than sustenance. As the supply of alluvial gold began to run out, thousands of former alluvialists found alternative employment in the expanding deep mining industry—but not all. In a last-ditch defence of their rights to alluvial gold on the leases, thousands of unemployed alluvialists rioted in Kalgoorlie in 1898 and 1899; nevertheless, by 1905 there were fewer than a thousand alluvialists left on the field.

The t'othersiders (particularly the Victorians, for whom Melbourne and the mining towns of Ballarat and Bendigo set the standards) considered themselves superior to the old Western Australians. They resented the political dominance of Perth and a lack of parliamentary representation and this found expression in a separatist movement: first to join South Australia, and then, as federation approached, to become a separate state.

Western Australia's gold production peaked at 73 tonnes in 1903, the year the Goldfields Water Supply reached Kalgoorlie. Of the 335 tonnes of gold mined in WA up to that time, about 80 per cent had come from the Eastern Goldfields. From 1903 Western Australia's gold production went into a continuous decline until, as ores became so lean as not to be worth mining using current techniques, the underground mining industry collapsed.

Nevertheless, an upsurge in the price of gold in 1930 and new processing techniques gave rise to a revival in gold mining. This provided work for thousands of unemployed men

and played a crucial role in promoting Western Australia's recovery from the Depression.

During the nickel boom of the 1960s and 1970s, unemployed gold miners found new employment in places such as Kambalda, but the industry was doomed unless ways could be found to exploit reserves of millions of tonnes of low-grade ore (0.5–5.0 grams per tonne). These reserves comprised 'haloes' around pre-existing worked-out higher-grade ores or previously uneconomic patches found by early prospectors.

The new technology comprised bringing together in a package of practices new technologies, chief among them being: winning gold from ultra-lean ores using various techniques of cyanide leaching of millions of tonnes of ore; separating gold from the leachings using carbon-in-pulp techniques; faster gold exploration using cheap high-speed drilling machines and assay methods; replacing underground mining with open-pit mining using cheap explosives and earth-moving machinery to move millions of tonnes of material; and, when underground mining became a necessity, using declines large enough to accommodate large earth-moving machinery.

The rate of turnaround was such that more gold was mined on the Eastern Goldfields between 1990 and 2003 (2,900 tonnes) than was extracted during the preceding one hundred years (2,682 tonnes). The resurrection of the Eastern Goldfields was also influenced by a series of generally favourable investment and managerial conditions, including a low exchange rate in the Australian dollar. The adoption of these new technologies will undoubtedly extend the Eastern Goldfields' distinctive mode of life and living. The Gold Mile, once the region's pride and joy, employing thousands, is now the 'Super Pit'—a very large gaping hole in the ground. The old cultural landscape, once marked by large head frames and nearby slime dumps, has been replaced by open pits, massive mullock heaps and the roar of earth-moving machinery and haulage trucks. **Martyn Webb**

See also: Eastern Goldfields Reform League; Gold; Goldfields theatre; Goldfields water supply; Newspapers, Goldfields; Population; Typhoid epidemics

Further reading: S. E. Close, *The great gold renaissance: the untold story of the modern Australian gold boom 1982–2002* (2002); M. Webb and A. Webb, *Golden destiny: the centenary history of Kalgoorlie-Boulder and the Eastern Goldfields of Western Australia* (1993)

Eastern Goldfields Reform League
Founded 13 December 1899 at a meeting in the Coolgardie Municipal Chambers, the Eastern Goldfields Reform League played a pivotal role in the Western Australia federation movement. Following the refusal of the Legislative Council to sanction a referendum on the Commonwealth Bill, prominent members of a community composed largely of migrants from eastern Australia resolved to petition the Queen to separate the goldfields from the rest of the colony. It was further proposed that the goldfields join the five federating colonies as an independent state. Taking their name from a similar body established by the *Uitlanders* of South Africa—British miners who complained of unfair treatment by the Kruger government—the T'Othersiders appointed a committee to draft the petition, and the 'separation for federation' campaign was born. At a second larger conference, held on 3 January 1900 in the Kalgoorlie Municipal Chambers, the League's executive officers headed by John Kirwan, owner-editor of the influential *Kalgoorlie Miner,* issued a *Manifesto* outlining goldfields' grievances. Copies were distributed to Imperial and colonial parliamentarians, newspaper magnates and other public figures. The Reform League also opened a London branch whose members successfully pleaded their cause in the English press. Funded by public subscription, the Reform League was aided

in its task by constitutional lawyers Josiah Symon, Patrick McMahon Glynn, and also Charles Cameron Kingston, the former South Australian premier, and supported by Perth federalists George Leake and Walter James, as well as eastern leaders like Alfred Deakin who saw it as a means of pressing the premier Sir John Forrest into bringing WA into the Commonwealth as an original state. **Anne Partlon**

See also: Eastern Goldfields; Federal movement; Politics and government; Secession
Further reading: J. Bastin, 'The Separation for Federation Movement', *Early Days. Journal of the Royal Western Australian Historical Society*, 4, 4 (1952); J. Kirwan, 'How Western Australia joined the Commonwealth', *Early Days. Journal of the Royal Western Australian Historical Society*, 4, 2 (1950); D. Mossenson, 'Separation movement on the Eastern Goldfields 1894–1904', *Early Days. Journal of the Western Australian Historical Society*, 4, 4 (1952)

Eastern-central Europeans Communities of Eastern-central Europeans in Western Australia—Czechs, Slovaks, Hungarians and Romanians—with a partial exception of Romanians, are small, and older than the general population, due to a low number of recent arrivals. The majority of people from these communities arrived in WA in the postwar decades, with a considerable number part of the Displaced Persons Scheme. The Hungary-born population in Australia increased from 1,227 in 1947 to 14,602 in 1954 and, after the 1956 Hungarian revolution was suppressed, Australia accepted Hungarian refugees. About 8,000 ethnic Hungarians arrived in Australia from Yugoslavia during the 1960s.

After the establishment of the communist regime in Czechoslovakia in 1948 about 240,000 people left the country and some arrived in Australia. Another large exodus occurred in 1968, when the 'Prague Spring',

the liberal movement, was suppressed by the communists.

Slovaks have a long history of emigration but only several hundred migrated to Australia before the Second World War; subsequently, in the late 1950s, 3,000–4,000 ethnic Slovaks from Yugoslavia arrived in Australia.

A large influx of Romanians occurred after the Second World War, and then during the late 1980s when Ceausescu's repression intensified. With the fall of communism and the opening of borders in 1989, the emigration of Romanians rose dramatically, triggered by difficult economic conditions. Between 1986 and 1996, the Romanian community in Australia almost doubled.

Because the borders of their home countries were closed from the late 1940s until 1989, people who migrated during the communist period were mainly political refugees, and their communities in Australia were strongly anti-communist in character. Migration to Australia from these countries, except Romania, did not increase after 1989, and this trend is not likely to change because the Czech Republic, Slovakia and Hungary joined the European Union in 2004. Some ethnic Hungarians fled unsettled Yugoslavia during the 1990s. Many Hungarians came from outside Hungary (Yugoslavia, Romania, Slovakia) so they may be undercounted in Australian censuses. Numbers in WA remain small: the 2006 Australian census counted 1,145 Hungary-born persons in WA (20,165 total in Australia); 1,404 Romania-born persons (13,881 total); 543 Czech Republic-born persons (7,181 total) and 245 Slovakia-born (3,321 total). When ancestry is taken into account, the numbers are higher, which indicates the presence of second and subsequent generations, as well as first-generation migrants born outside their ethnic homelands. In the 2006 census, 4,230 Western Australians were of Hungarian ancestry; 1,932 Romanian; 1,452 Czech and 508 of Slovak ancestry.

Hungarian, Czech and Slovak communities experienced considerable social mobility in

the postwar decades and are well integrated into mainstream society. Within the early postwar intake there were many skilled and professional people who were initially admitted as 'labourers' (men) and 'domestics' (women), but many later regained higher occupational status. Among their children's generation there are many professional people, some prominent in media, academia, business and politics. The Romania-born are over-represented in blue-collar occupations, although the proportion of professionals and paraprofessionals among them is close to the general population. The activities of the Australian Hungarian Association in WA (in Mount Lawley) are sustained mainly by older migrants, the postwar arrivals. Romanians in WA gather around two Romanian churches: the Pentecostal Church in Balga and the Baptist Church in Bayswater. After the 'velvet divorce' of Czecks and Slovaks in 1992, which created two separate, independent states out of the former Czechoslovakia, small Czech and Slovak communities in WA retained a shared ethnic association, the Czech and Slovak Association in WA, which has published a monthly magazine *Klokan* ('Kangaroo') since 1995. The Czech Republic and Hungary have consulates in Perth and all four communities have programs in their respective ethnic languages on the local multicultural radio station 6EBA-FM. **Val Colic-Peisker**

See also: Migrant ethnic associations; Migration; Refugees

Further reading: J. Jupp (ed.), *The Australian people: an encyclopedia of the nation, its people and their origins* (2001); R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004)

Eating places Silver-service dining is almost a thing of the past as Western Australians now enjoy a relaxed but sophisticated outdoor lifestyle complemented by healthy eating, usually paid for by credit card, and catered to by a vibrant hospitality industry.

Before the Second World War, eating out was for special family occasions, anniversaries and state dinners. Three hotels were noted for their cuisine and silver service—the Palace (1896), Esplanade (1898) and Adelphi (1935)—while Government House (1859) and the Weld Club (1871) were dining venues for Vice-Regal functions. The Boans Ltd dining room, on the fourth floor, was established pre-First World War, and became as famous as the department store itself for food, service and ambience. Cheap meals of fish and chips and fresh seafood were available from the Ritz Café (1925) in Barrack Street and the Oyster Bar (c. 1925) in James Street. Steak and eggs, and bacon and tomato, were available from most city cafés and restaurants in the 1940s and 1950s. Corned beef and cabbage could be ordered for lunch at Foy and Gibson's restaurant and the Coles cafeteria in Hay Street.

Afternoon teas at reputable hotels were places where women could socialise unescorted, and the Palace and the Esplanade were noted for these, more so after chef Herbert Sachse created the pavlova at the Hotel Esplanade in 1934. The Lattice tea-rooms at the corner of St Georges Terrace and London Court were complemented by tea-rooms underneath Burt Hall and in the basement of the Gledden Building. Perth's first espresso machine is said to have been installed in the early 1950s in Pisconeri's delicatessen and coffee shop at the corner of Lake and Newcastle streets.

The return of servicemen and servicewomen after the Second World War continued an interest in eating out developed during the visit here of American personnel. There were few opportunities but notable were Luis on the Esplanade in Perth and the Seacrest at Cottesloe. Postwar migration enlarged the choice with the Heidelberg and Rudi's in Hay Street, and the Sorrento, Madeira, Romany and Bohemia north of the railway line. In

1957, exquisite continental cakes could be bought at Leandri's in William Street, until 1978, and at Corica's in Aberdeen Street—which still makes the best apfel strudel!

A society predominantly European in origin was increasingly leavened by Asian migration, particularly in the aftermath of the Vietnam War. But even earlier, Chinese restaurants—the Peking, the China, the Shanghai, the Kunming and the Canton—had gained popularity during the Second World War, catering for US servicemen. Others included the Pagoda Lounge (1955) in Hay Street West, the Pink Lotus (1958) in Hay Street East; the Canton (1963) and Bill Lee's Chinese restaurant (1965) in Roe Street, and the Jade (1966) in Barrack Street. During the 1960s, many Western Australians travelled abroad. Young people on return, now more cosmopolitan in outlook and taste, preferred wine to beer as a meal accompaniment, and chefs recognised that high-quality fruit and vegetables were locally available, or easily imported, for innovative food preparation.

Eating out became a natural part of life in the sixties and a wide variety of places offered choice and service. The Tum Tum Tree in Fremantle set a new trend—selecting and cooking your own choice of meat—and was followed by the Hindquarter (South Perth) and the Bull's Eye (North Perth). The Adelphi Steakhouse was more formal but equally popular.

In the late sixties the Shiralee coffee house in Howard Street attracted a following interested in folk music, jazz and poetry, while the Coffee Pot in Wellington Street offered warm, subdued lighting, cool jazz and a Vienna coffee. Franco's in Hay Street East was less atmospheric but the coffee was good.

Late-night revellers patronised Van Eileen's Eats on the Cottesloe seafront, Cookie's on Stirling Highway, Bernie's on Mounts Bay Road or Southside, Mount Pleasant, all noted for hamburgers and scalding coffee.

Swedish-born Maud Edmiston opened Miss Maud's in 1971 in City Arcade (now Carillon City), serving open sandwiches, cake and coffee. In 1973 she opened the Smörgåsbord (Butter Goose Table) Restaurant on the corner of Pier and Murray Streets. Miss Maud's became famous for Swedish pastries (which customers could see being made in situ) and such dishes as pickled herrings and mimosa salad. Today there are fourteen Swedish Pastry House outlets in suburban shopping centres.

Northbridge developed in the 1970s and 1980s as a place for a variety of Mediterranean-style eating. University students of the late 1950s thought themselves very avant-garde when they enjoyed spaghetti with red wine at La Tosca in James Street. Licensed alfresco dining was not permitted in Northbridge until 1986. Today, Northbridge is a veritable United Nations of culinary choice.

At Papa Luigi's in Fremantle, Nunzio Gumina overcame strong Council resistance to alfresco dining in 1979 and South Terrace is now a thriving 'cappuccino strip' of coffee shops and restaurants, while the Roma in High Street has been a family favourite for more than fifty years.

The introduction of tavern dining and more liberal closing hours offered an alternative to beer swilling and nine o'clock hotel closing. Clancy's Tavern (1976) in Fremantle was an early example of good food, beverage choice and lively music.

Four 'fast food' chains expanded with a vengeance: Kentucky Fried Chicken began in 1969, Hungry Jack's in 1971 and Red Rooster in 1972 (both were originally Western Australian companies), then McDonald's Family Restaurants in 1982. Between them they now have 201 city and regional outlets.

As suburbs formerly residential became a mix of the professional and the commercial from the early 1970s onwards, new first-class restaurants opened. Fires were first lit under the Witch's Cauldron in Subiaco on 29 December 1970: garlic prawns continue to be a 'house special'. The Mediterranean opened

in Subiaco in 1973, and Pierre's (1984) and Perugino's (1986) in West Perth—with wine lists and prices to match. The Mediterranean gained notoriety in the 1980s when Perth entrepreneurs hosted lunches that lasted well into the evening.

Expensive eating mattered little when generous business allowances were a part of the conspicuous consumption of the 1980s. The introduction of a Fringe Benefit Tax in 1986 blunted the appetite, but more significant were changes in corporate practice: long, boozy lunches were out; diet-conscious eating, in-house, was in.

The development of a boutique wine industry, particularly in the state's South-West, the increasing number of sophisticated travellers, and the proliferation of restaurant awards, have ensured a high standard of dining with a number of notable restaurants now beyond the inner metropolitan area—the Loose Box in Mundaring (1987), the Jolly Frog at Dawesville (1996), and Vasse Felix (1989) in Margaret River, for example.

More research needs to be done to account for the way in which the eating habits and catering behaviours of Western Australians have changed over time. **David Hough**

See also: Brewing and breweries; Diet; Drinking; Entrepreneurs, immigrant; Hotel industry; Migration; Night-life; Tourism; Wine
Further reading: M. Bosworth, 'Eating for the nation: food and nutrition on the homefront', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); J. Gregory, *City of light: a history of Perth since the 1950s* (2003)

Economy Since Western Australia was settled by Europeans in 1829, the performance of its economy has been shaped by a variety of influences including geography, natural resource endowment, state intervention and globalisation. WA is a large state,

accounting for about one-third of the total area of Australia, but even at the beginning of the twenty-first century it had a relatively small population of less than two million, most of which was concentrated in the capital, Perth. It has always had a strong reliance on mining and agriculture for generating economic growth and this helps explain why the timing and pattern of growth has sometimes varied from the rest of Australia. With its small domestic market, WA has also always been dependent on trade for economic growth; and since the 1970s economic performance has gained from the acceleration in globalisation and international economic integration. In 2000–01, WA accounted for 9.9 per cent of Australia's population but produced 10.6 per cent of the nation's income, the largest output per head of any state. This entry provides a broad overview of the development of the Western Australian economy. Though there are great variations in economic performance between regions and between the 'city' and the 'bush', the focus will be on the WA economy as a whole.

Tables 1 and 2 below provide overviews of economic progress and structural change in WA between 1901 and 2001. Table 1 reveals that, compared with the rest of Australia, WA had large increases in the area under crop, wool, wheat and gold production. In general, indicators of primary industry show substantial relative progress while factory employment, an indicator of industrialisation, shows a relatively modest increase. In WA the balance of trade (excess or deficiency of exports versus imports) has generally been favourable, with the ratio of exports to imports increasing from 1.3 in 1901 to 3.2 in 2001. Table 2 shows that there has been significant structural change as the employment shares of the agriculture and mining sectors have declined, especially since the 1950s. The most striking change is the increased share of employment in the service sector, mainly finance, business, property and tourism services. Similar trends have occurred

Table 1: Western Australia in relation to the rest of Australia

Indicator	1901 level	Per cent of Australian total	1951 level	Per cent of Australian total	2001 level	Per cent of Australian total
Population ('000)	194	6.1	592	6.9	1,906	9.8
Area under crop ('000 hectares)	537	2.6	1,899	23.7	7,691	32.4
Wool production ('000 tonnes)	5,334	2.7	43	10.7	160	24.1
Wheat production ('000 tonnes)	27	2.5	1,143	25.0	9,004	36.4
Gold output (oz)	52,982	48.9	4,252	21.8	59,960	20.9
No. of factory employees	12,198	6.2	45,097	4.6	66,000	6.7
Exports ($m)	17	17.2	224	16.8	31,065	25.3
Imports ($m)	13	15.3	176	0.8	9,836	8.4

Source: Western Australia, *Statistical Registers* and *Yearbooks* (various issues)

Table 2: Employment by Industry Sector in WA, 1901 to 2001

Employment by sector	1901 No.	1901 Per cent	1951 No.	1951 Per cent	2001 No.	2001 Per cent
Agriculture	12,082	13.5	52,115	27.9	13,917	2.6
Mining	17,825	19.9	15,428	8.3	15,835	2.9
Manufacturing	12,520	14.0	45,097	24.2	66,600	12.3
Services	47,300	52.7	73,859	39.6	443,900	82.2
Total	89,727	100.0	186,499	100.0	540,252	100.0

Source: Western Australian *Statistical Registers* and *Yearbooks* (various issues)
Note: Where percentages do not add up to 100.0 this is due to rounding.

throughout Australia. It should be stressed that output data gives a slightly different picture. For example, in 2000–01 agriculture accounted for 4.1 per cent, mining 21 per cent, manufacturing 9.3 per cent, and services 65.6 per cent respectively of gross state product (GSP). The mining industry, while only a minor employer of labour, accounted for a greater proportion of GSP in WA than in any other state.

The state's economic growth can be divided into seven phases: 1829–80s, an economic backwater; 1890s, gold rushes; 1900–13, Federation and rural expansion; 1914–1930s, war, unbalanced development and depression; 1940s–50s, war and new

directions for the economy; 1960s, the mineral boom; and the 1970s and beyond, WA in the global economy.

After its founding in 1829 by Lieutenant-Governor James Stirling, the colony of WA struggled to develop. The allocation of land to settlers on the basis of the value of assets and labour introduced had dispersed a population of under 2,000 over an area from above Toodyay to Albany. Many private investors, who had been attracted by misleading advertising about the potential of the colony, left for greener pastures, and the inflow of immigrants slowed to a trickle. In 1830 only 39 vessels called at the port of Fremantle and the average number of vessels rarely exceeded seventy per year until the 1890s. An export trade in whaling, pearling, sandalwood and timber was established, but Western Australia's significance to the British Empire 'was very little more than its red colour on the map'. This was due to a variety of factors, including labour shortages in the colony, the small size of the local market, high transport costs, but mainly 'the inadequate level of profits which the colony offered to its settlers'.

In an attempt to jumpstart the economy the colonists requested that the British government send convicts to WA. The 9,668 convicts sent between 1850 and 1868 provided a welcome injection of cheap labour and British capital. However, in the 1850s the gold rushes in the eastern colonies acted as a magnet for free labour and capital and the progress of the WA economy remained slow.

The turning point came with the discovery of gold at Halls Creek in the Kimberley in 1885; other discoveries quickly followed, for example, Yilgarn and Southern Cross (1887), Coolgardie (1892), and Kalgoorlie and Norseman (1893). At that time the eastern colonies were suffering from an economic depression, and thousands of prospectors came to try their luck in the WA goldfields. As a result, Western Australia's population increased from 35,900 in 1885 to 101,000 in 1895, an almost threefold increase in the course of a decade. Between

1896 and 1900 WA produced an average of £3.98 million of gold per annum, or just over one-third of Australia's total production. Western Australia's total exports between 1896 and 1900 averaged £31 per head of population and imports £37 per head of population, compared with £19 and £17 respectively for the nation as a whole.

Following the granting of responsible government in 1890, Sir John Forrest, Western Australia's first premier, embarked on an extensive program of public works, including harbours, railways and water supplies. He hired the brilliant engineer C. Y. O'Connor (1843–1902) to carry out his plans. One of O'Connor's first successes was the blasting of the rock bar blocking access to the Swan River and the construction of a modern harbour. The first ocean-going vessel to enter the new harbour, the Blue Funnel Line's *Sultan* in May 1897, symbolised Western Australia's economic take-off. While gold led the way, exports of other commodities such as wool, timber and pearls (from the remote north of the colony) also increased during the 1890s.

In 1901 Federation created a new level of government, made a reluctant WA part of an Australia-wide common market and established a system of at times controversial state/federal financial arrangements. While the power to influence general economic conditions was gradually ceded to the federal government, state governments continued to exercise powers over industries and firms and the development of the local economy. A major concern was the effect of federation on Western Australia's manufacturing industry, as the removal of customs barriers between the states meant that manufacturers in the more densely populated states, who enjoyed greater relative access to economies of scale, were able to make large inroads into the Western Australian market. Thus local manufacturing was basically limited to the processing of primary produce before export and the production of goods such as building materials where distance offered a measure of natural protection.

Resentment about the effect of federation on local industry was a major factor behind the vote for secession in 1933.

The leading sector concept has been used as an aid to understanding Western Australia's economic growth during the nineteenth and early twentieth centuries. A leading sector is a sector that 'initiates a process of change of substantial magnitude in an economy'. It expands in response to autonomous factors (factors external to the economy), such as new inventions, new discoveries of natural resources and changes in overseas demand. At various times the goldmining, agricultural and pastoral industries have acted as leading sectors in WA.

During the 1890s, gold mining was a leading sector, dominating the rest of the economy. Gold production and gold exports peaked in 1903, when gold accounted for a massive 83 per cent of the value of the state's exports. Thereafter it declined in importance, although as late as 1913 it still accounted for 47 per cent of the value of exports and remained the major export earner.

During the first three decades of the twentieth century the land area devoted to wheat production grew from about 74,000 acres to about four million acres, and the value of wheat exports leapt from virtually zero to £6 million, thus creating a new leading sector. This growth was aided by government intervention, including the provision of cheap land, the development of an extensive railway system and the provision of credit to farmers. By the outbreak of the First World War, WA was basically a primary-producing state, exporting agricultural and mineral products and with only a small manufacturing sector, 'an economic structure…which has not altered substantially to this day'.

The interwar period was a time of unbalanced development and economic depression. The First World War caused major disruption to Australia's international trade and led to economic stagnation. Due to the scarcity of shipping, wheat exports piled up on the wharves and, as men flocked to join the armed forces, labour shortages emerged. Western Australia's per capita gross domestic product (GDP) peaked at £140.9 (1938–39 prices) in 1912–13, a level not exceeded until after the Second World War.

State development policy in the 1920s focused on agricultural expansion and on boosting population with the aid of assisted migration. One of the less successful initiatives was the Group Settlement Scheme, which attracted British migrants to the South-West to establish dairy farming but most struggled to make a living. According to G. Snooks, overemphasis on agricultural expansion led to an unbalanced pattern of development, with disastrous consequences in the 1930s. However, the wheat industry underwent another phase of rapid growth during the 1920s which contributed to a boom in economic activity: between 1923–24 and 1927–28, Western Australia's real GDP per head increased by 2.62 per cent per annum, compared with a decline of 0.02 per cent per annum in Australia as a whole. This expansion continued even though wheat prices fell steadily from the mid 1920s onwards and farmers faced higher production and marketing costs as cultivation was pushed into more marginal areas. The federal government's ill-conceived campaign to revive rural incomes by growing more wheat only made a bad situation worse.

In 1930–31, as a major depression engulfed the world and depressed demand for Australia's primary products, wheat prices slumped to only two shillings and threepence per bushel, or about one-half of the previous year's level. The 1930–31 harvest was 37 per cent larger than the previous year, but the gross return to farmers fell by 31 per cent. The industry underwent a period of drastic reconstruction causing severe hardship for farmers, but high unemployment—it peaked at over 28 per cent of the workforce in 1931–32—ensured that misery was widespread. WA was, to use Edward Shann's phrase, 'a fine country to starve in'.

Economic activity in WA began to pick up slowly in 1931–32, a year before the nation as a whole. This was mainly due to the re-emergence of goldmining as a leading sector, but also to the expansion of the dairying industries. Goldmining began to expand in 1929 due to the introduction of more efficient production methods and was further stimulated by an increase in the price of gold after 1930. By the late 1930s WA was producing about three-quarters of Australia's gold. In 1938/39 gold accounted for 46 per cent of Western Australia's total exports of £23 million. The revival of goldmining provided WA with 'breathing space', allowing time 'to reconstruct an economy which had become badly out of touch with both national and international market forces'. While average per capita incomes in WA stagnated between the First and Second World Wars, it is possible that the GDP data failed to reflect increases in the standard of living due to unmeasured gains in areas such as life expectancy, leisure and housing quality.

Industrialisation accelerated during the Second World War and WA shared in the postwar economic boom that lasted until the early 1970s. The economy experienced strong growth in population and agricultural exports and, from the 1960s, in mineral exports. As a result, between 1948–49 and 1975–76, real GDP per capita in WA grew at the very healthy rate of 2.8 per cent per annum.

In the 1950s successive state governments made major efforts to accelerate industrialisation in WA. The government funded the dredging of channels to provide access to a new deepwater port at Cockburn Sound about twenty kilometres south of Fremantle. Anglo-Iranian Petroleum (later known as BP) was offered inducements to establish an oil refinery at Kwinana on the shores of the Sound, which was completed in 1954. This led to large increases in imports of crude oil and exports of refined petroleum products. An iron and steel works (1954), an alumina refinery (1964), fertiliser plant (1969) and

a nickel refinery (1970) helped establish Kwinana as the state's industrial hub.

The progress of manufacturing industry was both overshadowed and stimulated by the mineral boom of the 1960s. In 1960 the federal government lifted the export embargo on iron ore it had introduced in 1938, and this opened the way for rapid development of the large, recently discovered iron deposits in the Pilbara region of north-western Australia. From a value of less than $1 million in 1965, iron ore exports grew to become Australia's major mineral export, accounting for $325 million or 28 per cent of the total value of mineral exports by 1970. The development of the North-West iron ore industry and other mineral industries helped transform WA from a 'Cinderella state' to a 'state of excitement'. One sign of Western Australia's progress was that it lost its status as a 'claimant state' under which it had, for over thirty years, received special grants from the federal government to help overcome its financial difficulties.

Western Australian state governments had enthusiastically assisted this expansion by providing large amounts of infrastructure. This was based on the belief that the economy would gain from multiplier effects and downstream development of resource processing. But critics pointed out that claims about multiplier effects and processing were over-optimistic and that residents of WA continued to receive relatively low levels of income per head because the majority of the dividends, rents and interest generated by the mining industry did not accrue to the general population.

This expansion altered the geographical pattern of Western Australia's trade. By the mid 1960s Japan was the main customer for Australia's mineral exports, and had replaced the UK as Australia's major trading partner. This was due to the high complementarity of the Australian and Japanese economies (complementarity measures the extent to which the commodity composition of a country's trade matches that of its trading partner). The

prospect of British entry into the European Economic Community had increased Australian interest in trading with Asia, but, for a variety of reasons, until the 1970s Australia had only limited success in gaining access to other Asian markets. By then the progress of Asian industrialisation had created a prosperous middle class and expanding markets for raw materials and food products in such countries as Hong Kong, Singapore, South Korea and Taiwan.

Due to the 'oil shocks' and a number of other factors, the long boom of the postwar period came to an abrupt end in the early 1970s and an era of slower growth followed. The economic slowdown and an acceleration in globalisation led to pressure for an overhaul of traditional economic policies; the 'economic rationalists' won the policy debate and Australia embarked upon a radical program of microeconomic reforms. These reforms included reduction of tariffs, lower barriers to foreign investment, deregulation of the financial sector, labour market reform and public sector reforms ranging from commercialisation to privatisation. While the federal government took the lead in microeconomic reform, the state government continued to play a key role in initiating and influencing growth in WA. However, due to the excesses of the 1980s—known as 'WA Inc'—governments have since adopted a more cautious approach to state entrepreneurship.

During the period 1981–82 to 1991–92, WA was the fastest growing state, increasing real GDP by 53 per cent compared with 26 per cent for Australia as a whole. This achievement has been attributed to three main factors. First, population increased by 24 per cent between 1981–82 and 1991–92, compared with 15 per cent in Australia as a whole, and this stimulated economic growth. Second, the further expansion of Western Australia's export-orientated agricultural and mining industries boosted economic performance. The mining industry, which supplies the majority of exports, increased output five-fold

during the decade ending in 1991–92 and included a diverse range of products, such as bauxite and natural gas, as well as iron ore. A key development was the North-West Shelf gas project, which helped to provide the energy to fuel a resources boom in WA—the first natural gas reached Kwinana by pipeline on 23 August 1984—and also valuable exports of liquefied natural gas. By 1991–92 WA had overtaken New South Wales and Queensland to become Australia's largest exporter, supplying over one-quarter of the nation's total exports. Finally, WA, compared with the eastern states, had relatively few traditionally labour-intensive manufacturing industries. Since the 1970s the latter have been in decline because of moves towards lower tariffs. Australia has shifted from being an economy largely isolated from external competition by protective tariffs, to one exposed to the chill of global competition. With fewer affected industries, Western Australia's manufacturing output was able to grow by 20 per cent between 1981–82 and 1991–92, compared with the national average of only three per cent. While manufacturing industry is still dominated by simply transformed manufactures (STMs), such as the downstream processing of minerals, by 1994–95 elaborately transformed manufactures (ETMs) accounted for about six per cent of Western Australia's total exports. Generally, microeconomic reforms have helped WA businesses increase their competitiveness and their exports. The most striking ETM success story is the shipbuilding industry that specialises in small craft such as fishing vessels and large high-speed ferries and makes a valuable contribution to export earnings.

In the 1990s WA also gained from growing complementarity with China. With GDP growth of about 10 per cent per annum during the last two decades of the twentieth century and a population approaching 1.4 billion, China emerged as a major market for minerals and energy. By 2001 Western Australia's exports to China were valued at $3.1 billion and China was the state's third-largest

export market after Japan and South Korea. In October 2002 a 25-year contract was signed by the North West Shelf Venture to supply LNG gas to China's Guangdong Province. The contract, estimated to be worth $25 billion in export earnings, set a new record as Australia's largest export contract. The year 2007 was a significant turning point, China overtaking japan as Western Australia's major trading partner, with exports worth $14.3 billion and total trade with China of about $16 billion. The mining industry attracted the lion's share of foreign investment, which accounted for about 25 per cent of total private capital expenditure in WA. This expansion led to Western Australians enjoying a greater share of Australian income and purchasing power and WA acquiring the reputation of being a 'state on the move'. As a result, in addition to overseas migrants, it attracted large numbers of internal migrants or 't'othersiders', who helped fuel an urban building boom.

This brief survey of Western Australia's economic history reveals more continuity than discontinuity: Western Australia's economy still needs to service the needs of a small population spread over a vast geographical area; it is still heavily dependent on the primary sector for exports and economic growth; compared with the eastern states manufacturing industry is still small; irrespective of which party is in power, state governments continue to play a key role in shaping the development of the economy; and federal–state financial relations remain an issue of concern. Nevertheless, significant changes have occurred: in the twentieth century WA was transformed from a 'Cinderella state' to a growth pacemaker; minerals and energy exports have overtaken agricultural exports; Japan, and then China replaced Britain as Western Australia's major trading partner; the services sector has increased its dominance as a source of employment; the economy has benefited from micro-economic reform, especially the reduction in

protection; and globalisation has accelerated, bringing significant gains as well as some risk of increased economic turbulence. Development policy since the late twentieth century has, however, become more complex, influenced by new concerns including Aboriginal land rights and the environment. However, given Western Australia's rich endowment of resources, continued access to growing markets such as China and, most importantly, sustainable development policies, future generations should continue to enjoy a place in the sun despite the global economic crisis of 2008–09. **Malcolm Tull**

See also: Agriculture; Asia, relations with; Convicts; Depression; Environment; Gold; Iron ore; Manufacturing; Mining and mineral resources; Oil and gas; Politics and government; Population; Sustainability; WA Inc.

Further reading: G. C. Bolton, *A fine country to starve in* (1994); P. Firkins (ed.), *A history of commerce and industry in Western Australia* (1979); D. Meredith and B. Dyster, *Australia in the global economy: continuity and change* (1999); C. T. Stannage (ed.), *A new history of Western Australia* (1981); P. Statham-Drew, *James Stirling: admiral and founding governor of Western Australia* (2003); M. Tull, *A community enterprise: the history of the Port of Fremantle, 1897 to 1997* (1997)

Ecotourism was identified as a phenomenon of travelling in the mid 1980s. Ideally, it has a number of components: it is environmentally responsible travel to relatively undisturbed natural areas; the enjoyment, study and appreciation of natural and cultural heritage are central; it should include an educational component; and it should benefit local communities. Its emergence reflected a change in the motivations and expectations of tourists and a growing concern for the environment and its conservation for future generations.

The natural environment of Western Australia is its greatest ecotourism strength.

Some of the world's most outstanding wilderness areas and natural features are found in this state, including Shark Bay World Heritage Area, Ningaloo Reef, Rottnest Island, the Bungle Bungles (Purnululu National Park), the Pinnacles, the gorges of the Hamersley Range (Karijini National Park) and the wildflowers of the South-West and the Mid West. The stromatolites at Shark Bay and the thrombolites at Lake Clifton are the world's oldest living fossils. The state also has over 12,000 different flowering plants, with the South-West noted as a global diversity hot spot.

In 1991 a not-for-profit organisation, FACET (Forum Advocating Cultural and Eco Tourism), was formed to promote the responsible community use of Western Australia's cultural and natural heritage through tourism. It has become an influential voice for ecotourism. In 1997 the Western Australian government formulated a Nature Based Tourism Strategy, thus establishing a framework that aims to ensure that tourism is managed in a sustainable way.

Ecotourism as a term is widely used and misused in tourism, particularly in advertising and labelling by tour operators. It is particularly problematic in relation to products using Indigenous themes and lands and many products sold as ecotourism bear limited relationship to the ideal concept. **Pat Barblett**

See also: Conservation and environmentalism; Environment; Heritage; National parks; Tourism
Further reading: M. Honey, *Ecotourism and sustainable development: who owns paradise?* (1999)

Ecumenism is a movement arising from the conviction of many Christians that God has made all Christians one in Christ, and that therefore they are under obligation to give institutional expression to that unity. There are two basic forms of ecumenism. The first is often regarded as a halfway house, the formation of Councils of Churches at every level from the local right up to worldwide, with inspiration provided by the World Council of Churches (WCC), founded in 1948. In Western Australia there were vague reports of a Council as early as 1908, but the body which today exists as the Council of Churches in WA came into existence in the late 1940s, linked with the work of the Australian Committee for the WCC. The first extant record of an Australian Council of Churches in an ecumenical sense comes from 1952, by which time it had clearly been in existence for some time. In 2007 the member churches of the Council in WA were the Anglican, Armenian, Coptic, Ethiopian, Greek, Lutheran, Roman Catholic, Romanian, Syrian and Uniting Churches, together with the Salvation Army and the Religious Society of Friends.

Much of the work of the churches is carried out ecumenically, either through Youthcare, which provides ecumenical ministry within the state system, or through chaplaincies in various secular agencies, with chaplains either appointed by their denominations and working ecumenically, or else appointed specifically to act as ecumenical agents.

The other form of ecumenism is where churches talk together with a view to better understanding and eventually to union. The various Methodist and Presbyterian churches came together in the nineteenth century, with the Presbyterians coming together nationally in 1901 and the Methodists in 1902. In 1904 these two churches, together with the Congregationalists, set up a committee at national level to consider union. At various times the Anglicans, Baptists and Churches of Christ were involved, but eventually it was only the original three who joined in the Uniting Church in Australia in 1977. In the early twenty-first century there are ongoing discussions between the Anglican, Lutheran and Uniting Churches. **John Neal**

See also: Spirituality and religion
Further reading: I. Breward, *A history of the Australian churches* (1993); F. G. Engel, *Australian Christians in Conflict and Unity* (1984)

Edith Cowan University originated in the first Western Australian Teachers Training College at Claremont, which opened in 1902 as an initiative of the reforming Director General of Education, Cyril Jackson. Co-educational and practical in its orientation, the Teachers Training College provided staff for state primary schools during the expansion of Perth and the Wheatbelt between 1905 and 1929, but was closed as a Depression economy measure between 1931 and 1934. A second period of growth came after the end of the Second World War in 1945, with other Teachers Colleges being created at Graylands (1955), Mount Lawley (1970) and Churchlands (1972). A Secondary Teachers College was meanwhile founded in 1967.

Following the closure of Graylands in 1979, the remaining four colleges were merged into a single unit, the Western Australian College of Advanced Education (WACAE) on 1 January 1982. Specialised features included the Western Australian Academy of Performing Arts, established on the Mount Lawley Campus in 1979 under the leadership of Dr Geoffrey Gibbs (1980–97).

During the 1980s WACAE pressed for advancement to university status and the state government passed the necessary legislation in 1990. The following year the new university, named in honour of Edith Cowan, Australia's first woman member of parliament, began operations, with the former WACAE Chairman, Justice Robert French, as Chancellor, and its Director Douglas Jecks as the first Vice-Chancellor. Also in 1991, Edith Cowan University acquired the Bunbury Institute of Advanced Education as its first regional campus. Millicent Poole was appointed as the university's second Vice-Chancellor in 1997.

In 2007 the Chancellor was the Hon. Hendy Cowan and the Vice-Chancellor Professor Kerry Cox.

During the 1990s activity was concentrated on an additional site at Joondalup where the administration moved to an impressive new building in 2003. The Claremont and Churchlands campuses were sold off, leaving Mount Lawley, as an inner-city campus, and Bunbury. In 2006 Edith Cowan University was the state's second largest university, with approximately 23,000 students, of whom more than 3,000 come from overseas.
Geraldine Byrne

See also: Curtin University of Technology; Education, primary; Murdoch University; Teacher training; University of Notre Dame Australia; University of Western Australia
Further reading: G. C. Bolton and G. Byrne, *The campus that never stood still: Edith Cowan University, 1902–2002* (2001)

Education, Catholic Catholic education in Western Australia was first offered by Father Brady, and carried out by Father Joostens, who, with lay teachers, continued to staff schools until the arrival of the Spanish Benedictine monks and Irish Sisters of Mercy in 1846. During its infancy the colony, with its vast unexplored hinterland and minority Catholic population, came under the jurisdiction of the Australian Catholic hierarchy in New South Wales. Father Brady, sent west in 1843 to care for the spiritual needs of Catholics, immediately commenced St John's Church in the present Victoria Avenue, Perth, which, according to the 1844 Blue Book, doubled as a Catholic school. Consecrated bishop in 1845 while visiting Europe, Brady successfully recruited a cosmopolitan party of teachers and missioners. The Sisters of Mercy from Dublin established their Perth foundation and school, the Mercy Convent, in 1846 and, until reinforcements were sent to join the community, they were obliged to employ lay teachers. The

success of this venture galvanised the Rev. Wittenoom, a Church of England clergyman, into action, and he prevailed on the governor to organise colonial schools to offset the drift of Protestant children to the Romanish schools. Elsewhere, Catholic families drew on parochial missions, catechists, educated local men and women and in some cases itinerants and ex-convicts to take on the role of teachers. Wages were often irregular and classes were held in a chapel or church that, midweek, was converted into a schoolroom. From the beginning, government aid for Catholic schools was a controversial subject, particularly when the governor, Andrew Clarke, agreed to develop a public school system and, in 1846, refused financial aid for religious education until the Colonial Office ordered him to set up public grants to Catholic schools. They received the first allocation of £20 in 1849.

The Mercy Convent and schools were the nucleus for future independent communities and the spread of Catholic primary schools and secondary colleges. In 1855 a second female teaching order, the Sisters of St Joseph of the Apparition from Marseilles, France, established a foundation at Fremantle, and in 1864 two De La Salle Brothers arrived from Malaya to open a school. The order's first attempt to found a community in WA was short-lived, and it was not until

Pupils in the Convent School at Coolgardie c. 1900. Courtesy West Australian *(HIST5553)*

the Brothers returned in 1954 that the De La Salle College was established at Midland Junction. At the request of the relevant bishops, other religious teaching orders both male and female arrived, including the Sisters of St Joseph of the Sacred Heart (founded from Penola, South Australia, in 1887); the Presentation Sisters of the Blessed Virgin Mary (from Sneem, Ireland, 1891); the Christian Brothers (Melbourne, 1894); the Oblates of Mary Immaculate (from Turin, Italy, 1894); the Loreto Sisters of the Institute of the Blessed Virgin Mary (from Ballarat, 1897); the Institute of Our Lady of the Missions (from Christchurch, New Zealand, 1897); the Dominican Sisters (from Dunedin, New Zealand, 1899); the Presentation Sisters of the Blessed Virgin Mary (Hay, NSW, 1900); the Society of the Catholic Apostolate, Pallottine Fathers (from Limburg, Germany, 1901); the Sisters of the Good Shepherd (from Melbourne, 1902); the Teresian Sisters (from Barcelona, Spain, 1904), as precursors to Benedictine Missionary Sisters at New Norcia; the Marist Brothers (from Sydney, 1912); the Salesians of Don Bosco (from Turin, Italy); the Jesuit Fathers (from Melbourne, 1938); the Poor Sisters of Nazareth (from London, 1938); the Brigidine Sisters (from Sydney, 1942); the Congregation of the Mission Vincentian Fathers (from Sydney, 1948); the Franciscan Friars (from Sydney, 1950); the Order of the Servants of Mary, Servite Fathers (from Chicago, USA, 1951); the Schoenstatt Sisters of Mary (from Schoenstatt, Valendar, Germany, 1951); the Italian Ursulines of the Sacred Heart (from Bengbu, China, 1952); the Sisters of the Holy Family of Nazareth (from Chicago, 1957); the Norbertine Canons (from Kilnacrott, Co. Cavan, Ireland, 1959); the Franciscan Missionaries of Mary (from Sydney, 1962); the Servite Sisters, Servants of Mary (from Tirucchchirrappa, India, 1970); the Canossian Sisters (from Brisbane, 1977); the Sisters of the Infant Jesus (from Melbourne, 1980); the Good Samaritan

Sisters (from Sydney, 1986); and the Sisters of the Faithful Companions of Jesus (from Melbourne, 1988).

Several orders established branch houses and founded boarding and day schools in the metropolitan area, coastal and country towns, the South-West region and the Eastern and Murchison goldfields, as well as in the far north of WA. The initial catechetical role of missions for Aboriginal communities evolved into a very significant provider for Aboriginal education, especially in the Kimberley. The religious and educational needs of families living in outlying mining, pastoral and Wheatbelt towns were mainly met by small convent schools, most of which acted as conduits for central boarding colleges conducted by the same order. Attracted by the variety of subjects offered to pupils, numerous Protestant parents favoured a Catholic education. Enrolling daughters at a convent school became popular in days when additional subjects, including etiquette, deportment, elocution, music, singing, painting, needlework and languages, were offered as part of the curriculum. Similarly, the curriculum offered by the Christian Brothers appealed to non-Catholic families such as the Samsons of Fremantle.

With the downturn in vocations and change of pastoral focus, few congregations still operate the schools they founded. Most colleges, including earlier foundations such as Loreto and St Louis (now John XXIII College), Siena, Brigidine and Marist (now Newman College) became co-educational. Well-known single-sex schools include Mercedes College (Perth, 1846); Fremantle CBC (1900, based on the earlier Boys School of 1882); Iona Presentation College (Mosman Park, 1908); Santa Maria College (Attadale, 1938); Aquinas College (Mount Henry, 1938); Trinity College (East Perth, 1962, founded from the former CBC, St Malachy's, St Georges Terrace), Mazenod College (Lesmurdie, 1966) and St Brigid's (Lesmurdie, 1929). The majority of schools are now administered by School Boards as authorised by the Catholic Education Commission on behalf of the bishops and are staffed by highly qualified lay teachers. Early in the twenty-first century there were over 50,000 students enrolled at Catholic schools in WA, which, according to the National Report on schooling, was about 17.7 per cent of the state's schoolchildren. As of February 2004, the current number of Catholic schools in WA involved 111 primary schools, 29 secondary colleges and 19 composite schools. Enrolments for 2004 were: 4,323 kindergarten; 35,137 primary; 26,164 secondary; 1,119 boarders. **Ruth Marchant James**

See also: Catholic church; Education, government secondary; Education, independent schools; Education, primary; Religious orders; University of Notre Dame Australia

Further reading: D. F. Bourke, *The history of the Catholic Church in Western Australia* (1979); R. M. James, *Cork to Capricorn: a history of the Presentation Sisters in Western Australia 1891–1991* (1996); R. M. James, *Fields of gold: a history of the Dominican Sisters in Western Australia* (1999); P. D. Tannock, 'Catholic Education in Western Australia, 1829–1979', in W. D. Neal (ed.), *Education in Western Australia* (1979)

Education, early childhood Early childhood education comprises two years of non-compulsory schooling for children aged four to six years. It aims to promote the intellectual, emotional and physical development of children through guided, child-centred play. Some private kindergartens and a number of infants' rooms in state schools were already operating when the Kindergarten Union of WA (known as the Kindergarten Association of WA from 1966) was established in 1911. The protagonists behind its formation were William Catton Grasby, Benjamin Darbyshire and Bessie Rischbieth, who had seen free kindergartens operating in Adelaide and

Sydney. The Kindergarten Union, which initially worked closely with the Women's Service Guild and the Children's Protection Society, was a philanthropic organisation advocating free kindergartens as a tool for social reform. The first free kindergarten was opened in Pier Street in 1912. Initially kindergartens were located in working-class areas of Perth, but as community recognition of the benefits to children grew, centres were established throughout the state. In 1913 the Kindergarten Union established a teacher-training centre, housed at Meerilinga in Hay Street, West Perth, from 1922, but control of training transferred to the Western Australian Institute of Technology (WAIT) in 1975. The state system ceased kindergarten programs in 1916, making the Kindergarten Union the principle provider of kindergartens until its dissolution in 1973. Over the next five years control of early childhood education was incrementally transferred to the Education Department, where it remained in the early twenty-first century.
Rosemary Kerr

See also: Child care; Child development; Children; Women's Service Guild
Further reading: D. Davidson, *Women on the warpath: feminists of the first wave* (1997); R. Kerr, *A history of the Kindergarten Union of Western Australia 1911–1973* (1994); E. Mellor, *Stepping stones: the development of early childhood services in Australia* (1990)

Education, government secondary Secondary education, free of tuition fees, was established in WA during the early decades of the twentieth century by Cecil Andrews, Director of the Education Department, 1903–29. Before this time, education of adolescents was restricted to the ex-sevenths (post Standard VII pupils) in the larger government elementary schools, and to small numbers of older pupils in a few private schools. Andrews established single-sex

central schools (standards VII–IX) in Perth and major regional centres. His principal achievement was the co-educational Perth Modern School (PMS), which opened in 1911. Andrews overcame objections from the existing independent secondary schools and removed government doubts by publicising the need for his 'modern' science-based curriculum in a state dependent on agriculture and mining. His inability to secure funding for a second city high school converted PMS into the selective entry institution that dominated the public examinations. In the country, governments committed to regional development opened high schools in the Eastern Goldfields (1914) and in Northam (1921), Bunbury (1923), Albany (1925) and Geraldton (in stages). When Andrews retired, the government secondary system contained 1,611 pupils in high schools and 3,581 in central schools.

The impact of economic depression and war in the 1930s and 1940s inhibited growth and caused overcrowding in the central schools. The postwar boom stimulated demand for post-primary schooling and between 1947 and 1953 conservative governments built high schools in the larger country towns and district high schools (combined primary/lower secondary) in several rural centres. Labor governments (1953–59) established a succession of three-year and five-year secondary schools in the metropolitan area. This expansion was directed by Thomas Robertson, the head of the Education Department, who reformed secondary education by eliminating single-sex schools and removing PMS's scholarship entry requirement. Henceforth government secondary education was fully co-educational and comprehensive with each institution catering for its local community. Under Robertson, the government system expanded to provide 70 per cent of the secondary education in the state.

There were forty government high schools in 1965 and eighty-five by 1985. Demand for places was generated by population increase,

raised school leaving age from fourteen to fifteen, and higher retention rates. The federal government introduced recurrent funding for non-government schools in 1969 and for government schools after the establishment of the Schools Commission (1973). The Catholic system was resuscitated and the way opened for new non-government schools. Since the mid seventies the growth of the non-government sector, in particular low-fee schools, has shown no signs of ending. The government share of secondary students peaked at above 77 per cent in 1976, then declined.

Review of the lower school curriculum under H. W. Dettman, who succeeded Robertson, led to the elimination of the Junior Certificate, which was replaced in 1970 by a school-assessed externally moderated Achievement Certificate supervised by a Board of Secondary Education. When David Mossenson became Director-General in the mid seventies he enhanced government secondary education by introducing programs for gifted children, including specialist secondary schools, such as Perth Modern School for music, Applecross for art, John Curtin for performing arts, and by improving the secondary provision for rural and isolated children. His successor, Robert Vickery, oversaw the Beazley (1984) and McGaw (1984) reports, which resulted in the Achievement Certificate being phased out by 1986 in favour of the Unit Curriculum. The Public Examinations Board was replaced by the Secondary Education Authority (1985), and later by the Curriculum Council (1997).

The close of the twentieth century was characterised by a series of short-term appointments to head the Education Department. Until the mid eighties, government secondary school performance in the final years remained high. Recent years have witnessed an enrolment drift to non-government schools (by the year 2000 the government share of secondary students had declined to 65 per cent and is projected to be less than 57 per cent by 2010) and concerns

in some quarters over performance in the government sector. **David Mossenson and Kenneth Evans**

See also: Association of Independent Schools; Distance education; Education, Catholic; Education, independent schools; Education, primary; Perth Modern School; Public examinations; Teacher training
Further reading: D. Mossenson, *State education in Western Australia, 1829–1960* (1972)

Education, independent schools The limited provision of government schools and relatively high proportion of middle-class settlers accounted for the emergence of several small private schools in the Swan River colony during the 1830s and 1840s. The colony's first secondary school was founded by the Anglican bishop Mathew Hale in 1858. Closed in 1872, the colonial government sponsored its re-opening in 1876 as the High School, secular and subsidised. (The Anglicans would resume control in 1958, by which time it again carried Hale's name.) By the eve of responsible government in 1890, one-third of all enrolments were in assisted non-government schools.

Rapid population growth during and immediately following the gold rush of the 1890s saw the expansion of non-government secondary education in WA, notwithstanding the abolition of state aid by Sir John Forrest's government in 1895. The future Guildford Grammar School was founded the following year and purchased by the Church of England in 1909, while Scotch College opened under Presbyterian auspices in 1897.

Major developments in girls' secondary education during the next two decades were the opening of Perth College by an Anglican order in 1902, Methodist Ladies' College in 1908, and the Presbyterian Ladies' College, with antecedents in an earlier small private school, in 1915. The first major co-educational

school had been opened by the Seventh Day Adventists in 1907. Meanwhile, the state's four leading boys' schools sought to confirm their elite status and strengthen sporting competition by forming the Public Schools' Association in 1905.

Following the First World War two new denominational boys' secondary schools were established—Christ Church Grammar School in 1917 and Wesley College in 1923. Two more Anglican Church-sponsored girls' schools also made their appearance during this postwar period: St Mary's in 1921; and St Hilda's, with antecedents in Miss Ross's School (1896) and Claremont Ladies College (1907), in 1931. Post Second World War prosperity and population growth prompted the establishment of three more denominational schools—the Methodist Penrhos College for girls (1952) and two co-educational Anglican schools, Bunbury Grammar (1972) and All Saints' College (1980). Carmel School, committed to the teaching of orthodox Judaism and Zionism, was opened at primary level in 1959 and expanded to senior secondary status in 1978. Other less traditional schools also emerged in this period, often with an extracurricular focus in keeping with the school's philosophy. The (now defunct) communist school 'Eslanda' operated in the 1960s; a Montessori school which opened in Kingsley in 1962 was the first of more than a dozen Montessori schools, from play groups to secondary level, established across WA; the Lance Holt School in Fremantle was founded in 1970; and the Perth Waldorf school, founded in 1982, is now one of five Steiner schools in the state.

The need for a representative body to handle industrial matters and lobby government inspired establishment in 1962 of the Association of Independent Schools, which, by 2003, boasted 141 WA members (including the nine 'non-systemic' Catholic schools). Commonwealth aid policy, generous to the independent and Catholic systems since the 1970s, would later encompass capital assistance to a broader range of new non-government schools, and in the early 1980s several mainstream churches began to establish low-fee community schools. By the beginning of 2004 the Baptists had opened eight, the Anglicans six and the Uniting Church three. Conservative Christian schools and 'special' secular schools were now more numerous, while four Islamic schools had opened. By that stage the non-Catholic independent sector accounted for 12.64 per cent of total WA school enrolments.

The long-established Headmasters' Conference of Australia, comprising heads of the more traditional 'public schools' for boys, merged with the corresponding body for girls' schools in 1985 to become the Association of Heads of Independent Schools of Australia, and in 2003 twenty-six Western Australian principals were members. **Peter Boyce**

See also: Association of Independent Schools; Education, Catholic; Education, government secondary; Education, primary
Further reading: P. J. Boyce, *Honest and unsullied days: a history of Wesley College Perth* (2001); J. Gregory (ed.), *Building a tradition: a history of Scotch College, Perth 1897–1996* (1996); D. Leinster-Mackay and D. Adams, 'The Independent Schools of the Twentieth Century' in W. D. Neal (ed.), *Education in Western Australia* (1979); C. May, *Built on faith: a history of Perth College* (2002); M. A. White, *Go forward!* (1996)

Education, primary In the 1800s primary schooling in Western Australia came under the title of elementary education (students aged six to fourteen years). Government secondary schools were not formally established in WA until 1909, when Cecil Andrews converted eight of the state's largest elementary schools into central schools, which accepted advanced students from their neighbouring primary schools. From this point on, primary schooling ended at Standard VI or Grade Seven.

From the founding of the colony in 1829 until the establishment of the first Committee for the Management of Colonial Schools in 1847, most Western Australian school-aged children who attended school were enrolled in private schools. In 1847, of the 400 children in the colony aged between four and twelve years, 230 were attending schools, and of these, only three girls and ten boys were at the government-assisted Perth Free Grammar School, established in 1846.

As a result of the work of the renamed General Board of Education, the Perth Colonial Boys' School (44 pupils) and the Perth Colonial Girls' School (36 pupils) opened on 19 September 1847. Further government colonial schools were established at Fremantle, Pinjarra, Guildford, York and Albany and the General Board of Education's report recorded eight colonial schools with 232 students in 1849. Six years later, enrolments in the thirteen government schools had doubled. Yet for much of the 1840s sectarian rivalry impeded schooling in the colony.

The small Catholic community opposed the General Board of Education because WA implemented a policy of a single state education system, rather than supplementing existing church schools. The Catholic Bishop, John Brady, objected to this, for Protestants outnumbered Catholics in the unassisted Catholic schools, yet successive governors Clarke and Irwin showed little sympathy. In 1846 Brady sent a memorial to London, and two years later the Colonial Office directed Governor Fitzgerald to introduce public grants for Catholic education in WA.

When transportation began in 1850, both government and Catholic schools enjoyed a period of expansion. Yet the Board of Education revealed that of the 1,211 children in the colony, only 500 were receiving instruction in 1850. On Governor Kennedy's arrival, the vexed issue of state aid to private schools re-emerged. Kennedy determined to introduce the Irish National System of education. In 1856 he ended government assistance to Catholic schools and banned the reading of the Bible, while introducing Scripture lessons prepared by the Irish National Commissioners. Kennedy's reforms remained largely intact for the next fifteen years, and government elementary schools increased from eleven (429 pupils) in 1856 to fifty-five (2,188 pupils) in 1870. The major population centres of Perth, Fremantle, Albany and Geraldton maintained segregated schools, while the outlying districts operated smaller mixed schools for girls and boys.

Despite Kennedy's changes, the Catholic schools survived the 'national' system, but in 1869 the colony's Roman Catholics petitioned the Legislative Council to restore state aid for their schools. Initially, Anglicans, Congregationalists and Methodists united behind the Anglican Bishop Hale in defence of the 'national' school system, but the arrival of the first Catholic governor in 1869, Frederick Weld, changed the balance of power. Weld drafted an Elementary Education Bill that entirely removed religious instruction from government schools and reintroduced state aid to private schools. Once again, sectarian divisions threatened to destroy the gains government schooling had made, but by the time the Bill became the *Elementary Education Act 1871*, a compromise was reached.

A conscience clause allowed one hour of religious lessons in government schools, and a dual system of government and state-aided church (assisted) schools was proposed. The old General Board of Education was replaced by a new Central Board to supervise all schools receiving government assistance, to appoint an Inspector of Schools, and to establish District Boards to oversee schools in their local areas and to introduce compulsory attendance for students aged between six and fourteen years.

Western Australia's first piece of educational legislation, with amendments, lasted until 1928. Government schools increased from sixty in 1872 to seventy-seven by

1885, with a total of 3,000 students. During this period, 'payment by results' was also introduced, whereby teachers' wages were determined by student examination achievements in addition to attendance records. Female wages were set at 80 per cent of the equivalent male rate.

The late 1880s saw the discovery of gold in WA and a new age of prosperity. In 1890 the colony became self-governing and its population grew rapidly. This placed considerable pressure on schooling. With the agitation of the editor of *The West Australian*, John Winthrop Hackett, a perception grew that assisted schools prospered at the expense of government schools. The Anglican church even considered introducing its own elementary schools, but with the *Amendment Act 1893*, clergymen were granted right of entry into all elementary schools supported by the government to instruct children of their own religious persuasion. The new Amendment Bill also established an Education Department under a Minister of Education, who alone had the power to appoint and dismiss teachers. During 1894 co-education was also adopted as official policy in an attempt to economise and secure better efficiencies.

In 1895, despite fierce opposition from the Catholic Bishop Gibney, the *Assisted Schools Abolition Act* was passed, and state aid to non-government schools ceased. The Act also introduced fixed salaries for teachers instead of payment-by-results. Major changes during the 1890s included the removal of fees and effective compulsory attendance requirements. The first Inspector General of Schools, Cyril Jackson, was appointed in 1896. His five-year appointment sparked the introduction of a new Elementary syllabus, teachers' associations, the *Education Circular* to promote the new syllabus, the first teacher training college at Claremont (1902) to replace the pupil–teacher system, and recruitment of trained teachers from the depressed eastern colonies to fill staff shortages.

Jackson returned to England in 1903, and was replaced by Cecil Andrews, the first principal of the Training College. During Andrews' first decade some 300 new schools were established in the agricultural areas of the state as a result of land settlement schemes. Most of these were single-teacher schools with between ten and twenty students spread across the grades. Despite the lower wages for teachers in bush schools, they were expensive to run and difficult to staff. In 1908 the first Country Teachers' Association was formed and the *W.A. Teachers' Journal* established. Two years later the Association amalgamated with the State Teachers' Union, and, in February 1911, Perth Modern School—the state's first government high school—opened, with 250 students in attendance.

The First World War and the drought of 1914 caused significant financial pressures; lengthy teacher salary disputes caused the teachers' and civil servants' strike of 1920. There were over 800 departmental schools in the state by 1929. During this period, Inspector Miles produced a Small Schools Curriculum (1922) and the Western Australian Correspondence Classes (1918) expanded to cater for pupils living in remote areas. Claremont Training College also extended its offerings, with over 200 students training to become headmasters or headmistresses of one-teacher schools, primary or secondary assistants, or specialist teachers. In 1928 a new *Education Act* replaced the old *Elementary Education Act* of 1871. Despite these achievements, financial constraints prevented Andrews from reducing the maximum class size to forty pupils and raising the school leaving age from fourteen to fifteen.

Western Australia's prosperity collapsed in 1930 with the Great Depression. The Teachers' College closed and the Premiers' Plan reduced teachers' wages by nearly a quarter, which led to severe teacher shortages in 1933. Motorised transport contributed to the consolidation of rural schools during the 1930s, and government schools numbered

910 by 1934. During the 1940s Aboriginal children were also enrolled in state schools. Large classes, severe overcrowding and teacher shortages persisted well into the postwar period.

As the economy picked up, government spending on education increased fourfold and student numbers doubled by 1960. Meekatharra School of the Air (SOTA) commenced broadcasting in 1959, followed by Derby in 1960. Kalgoorlie SOTA opened two years later with the development of school camps for correspondence students. The issue of state aid for private schools also surfaced again. Sir Robert Menzies used it as a campaign platform for his federal election win in 1963, and every state parliament had state aid bills before it by 1967. In the 1972 federal elections, Gough Whitlam led Labor to victory, established the federal Schools Commission and tripled federal funds to all schools.

Mount Lawley Teachers' College and Churchlands Teachers' College also commenced in 1972, and the last of the two-year trained teachers graduated; however, the percentage of male teachers in WA primary schools dropped to 37 per cent.

In 1975, annual inspections of government schools were abolished, and the following year saw a reorganisation of the Department to reflect a seamless pre-primary to Year 12 approach to schooling in WA. In 1980 a total of 119 new primary classrooms were added to the 131 government primary schools operating in WA.

In 1983 the Distance Education Centre opened in West Perth, and 108 teachers catered for over 2,000 isolated students. Government primary schools accounted for about 80 per cent of Western Australia's primary student population, and by 1989 student/teacher ratios in WA primary schools had dropped to 19:1. At the turn of the twenty-first century there were over 144,000 students attending government primary schools in WA, representing approximately 70 per cent of the student population. **Cal Durrant**

See also: Aboriginal education; Distance education; Teacher training
Further reading: D. Mossenson, *State education in Western Australia, 1829–1960* (1972); D. H. Rankin, *The history of the development of education in Western Australia 1829–1923* (1926)

Electoral system Australia has long been regarded as a laboratory for representative democracy. Often described as the first nation created through the ballot box, much of its early identity as a nation has revolved around its democratic experiments, particularly in electoral law. Western Australia has often conformed to Australia-wide electoral laws but some exceptions have been apparent. The early introduction of the secret ballot in the Australian colonies resulted in it becoming internationally known as the Australian Ballot, but WA was the last colony to introduce such legislation in 1877. During the phase of representative government in WA, between 1870 and 1890, the Legislative Council was expanded in number without this disturbing the two-thirds elected provision. There was a male property franchise with plural voting being permitted in some instances. Following the Westminster pattern, plurality, or first past the post, was adopted in single or double member electorates.

In 1890, when responsible government was gained, some property-based franchise restrictions were initially retained and neither women nor Aboriginal people were permitted to vote. Moreover, politicians were themselves involved in the drawing of boundaries, with the Westminster notion of community of interest, with a rural weighting outcome, being accepted as a feature of the WA political landscape. As early as 1893 the male franchise was adopted for the Legislative Assembly, with the abolition of plural voting in 1904, but not until 1963 and 1964 were similar provisions adopted for the Legislative Council. Women won the

right to vote in 1899, second only to South Australia, but it was not until 1920 that legislation enabled them to sit in parliament. On the other hand, Aborigines did not gain the right to enrol and vote until 1962, and it was not until 1983 that enrolment and voting became compulsory. In 1970, WA became the first state to lower the voting age to eighteen years.

In a major move in 1907, a decade before the Commonwealth parliament, WA legislated for preferential voting (sometimes called the alternative vote) in single-member constituencies. Initially the distribution of preferences was optional, but from 1911 preference distribution was compulsory for a valid vote to be recorded. It has remained a feature of the Legislative Assembly electoral system, with other mainland states gradually following suit. However, with another distinctive feature of Australian electoral law, namely compulsory voting, first introduced in Queensland in 1914, WA was a laggard. Save its use for the 1933 secession referendum, compulsory voting for the Legislative Assembly was passed in 1936, long ahead of 1964 for the Legislative Council. Compulsory enrolment for the Legislative Assembly came into force in 1919, eight years after comparable Commonwealth provisions. Briefly, enrolment rules became a controversial issue in 1977 when the state government sought to tighten requirements. Eventually, in 1983 a single enrolment claim card was extended to enrol electors for Commonwealth, state and local government elections.

Substantial changes to electoral procedures took place in 1987 when a new independent Electoral Commission was established. Six multimember regional electorates replaced dual-member provincial seats in the thirty-four-member Legislative Council, significantly to be elected by proportional representation. The metropolitan area, with seventeen seats, was defined by the Metropolitan Region Scheme boundary. It also brought to light once again the issue of vote weighting, sometimes labelled malapportionment, which was very marked in the Legislative Council but also prevalent in the Legislative Assembly. Although some 70 per cent of the electors reside in the metropolitan area, only 34 of the 57 seats in the lower house were city-based, with 23 in country regions. A longstanding policy commitment of the Labor Party has been the introduction of 'one person, one vote, one value', which has been enacted for the Commonwealth and all other states. Frustrated at repeated legislative failures to eliminate vote weighting, Labor took the cause to both the Supreme Court of WA and the High Court. However, important decisions in *McKinley v Commonwealth* (1975); *Wilsmore v Western Australia* (1982); *Burke v Western Australia* (1982); *McGinty v State of Western Australia* (1996) and *Attorney General* (WA) v *Marquet* (2003), revealed that the courts would not uphold voter equality as inherent in the constitutional fabric. Eventually, though, 'one vote, one value' was achieved for the Legislative Assembly in 2005, save some consideration for a 'large district allowance' and with membership of the Legislative Assembly increased from 57 to 59 seats. The Legislative Council was also expanded from 34 to 36 seats, but the six-region model, with contiguous lower house districts, was retained. With each region to have six members the number of metropolitan to country seats was set at 18:18, thus keeping the same vote weighting ratio for the upper house. **Harry C. J. Phillips**

See also: Aboriginal legislation; Citizenship; Citizenship, Aboriginal; Female suffrage; Parliament; Politics and government

Further reading: H. Phillips, D. Black, B. Bott and T. Fischer, *Representing the people: Parliamentary Government in Western Australia* (1998); M. Sawer and G. Zappala (eds), *Speaking for the people: representation in Australian politics* (2001); WA Electoral Commission, *Electoral History in Outline* (1990)

Electricity, a method of transmitting energy quickly and efficiently from a place where it is generated to another where it is used, has become a necessity of modern life in Western Australia. Its use necessitates a complex system of power stations, transmission lines and distribution networks, of which perhaps the most important element is the power station. Big and expensive, they must be efficiently located in terms of their accessibility to a fuel supply and large supplies of cooling water, and the cost of transmitting energy to customers.

Small electricity generators were being manufactured in Britain by the 1850s and the first commercial power system was commissioned in New York in 1882. Electricity was first put to use in WA in 1888 when a small generating plant lit the ballroom at Government House. By 1891 the railway workshops at Midland and the chamber of the Legislative Assembly were lit by electricity. Following this a number of small electrical power systems were set up across the colony where there were sufficient customers to support them.

The first major power station in WA was constructed at East Perth in the first decade of the twentieth century. It initially housed three 4-megawatt generators but, to meet the rapid uptake of electrical power in the community, its capacity was upgraded to a total of 57 megawatts by the Second World War. During the war, planning began on a new power station at South Fremantle, which, when it was completed in 1954, supplied Perth with 400 megawatts of power. In the same period the government also decided to construct an interconnected electricity system linking the entire south-west of the state. It commenced with upgrading an existing power station at Collie between 1948 and 1951 and building a new power station at Bunbury that had a capacity of 120 megawatts when it was completed in 1961. This South West Power Scheme was connected to the Perth system in 1956, had extended to Albany by 1962 and

to Geraldton by 1973. In 1984 the Eastern Goldfields were connected to the system.

To meet rapidly increasing public demand, the capacity of the system had to be continually expanded. New power stations were constructed at Muja near Collie (completed in 1969), Kwinana near the oil refinery (completed in 1978), and a major extension at Muja (completed in 1985). The extension at Muja cost over $400 million (in 1970s values), so construction of later major power stations became a serious financial and political problem. To meet ever-growing demand a new power station was constructed at Pinjar north of Perth to burn natural gas rather than coal or oil. It was extended in stages from 1989 to 1996 with a final capacity of 571 megawatts. Despite a total system capacity of around 2,500 megawatts by the mid 1990s, demand continued to escalate so another major power station was needed. After much debate and controversy, the new station, constructed near Collie, began operation in 1999, costing around $700 million and generating 600 megawatts.

In addition to power stations, highly expensive transmission lines, sub-stations, distribution networks and control systems also have to be provided. Although the electricity system has become a necessity to Western Australians, the high cost of providing and maintaining it has become a significant issue in the life of the state. **Leigh Edmonds**

See also: Energy, renewable; Energy, sources and uses; Power stations
Further reading: L. Edmonds, *Cathedrals of power: a short history of the power-generating infrastructure in Western Australia 1912–1999* (2000); R. G. Hartley, *Industry and infrastructure in Western Australia 1829–1940* (1995)

Empire and Commonwealth Games Perth was thrust into the international sporting spotlight when the city hosted the seventh

British Empire and Commonwealth Games (changed to the Commonwealth Games in 1978) from 22 November to 1 December 1962. In a sizzling 41 degrees Centigrade, the hottest November day in forty-nine years, 53,000 spectators sat in the new £1 million ($2 million) Perry Lakes Stadium to watch more than 1,200 athletes from thirty-five nations march around the arena. Prince Philip, Duke of Edinburgh, President of the British Empire and Commonwealth Games Federation, presided at the ceremony.

After formally resolving in July 1956 to apply to stage the Games, Perth controversially beat Adelaide as the Australian Commonwealth Games Association's (ACGA) selection to host the Games. The ACGA had initially recommended Adelaide as Australia's nomination. However, Lord Mayor of Perth Sir Harry Howard lodged a protest and, following the garnering of widespread support by Howard, City of Perth town clerk Alan Green and Jack Howson, the secretary of the WA division of the Games Association, the ACGA reversed its decision in June 1958. Before Perth was awarded the event, the city had held national but no international-class sporting events. Funding from the federal and state governments and the City of Perth enabled the construction of Perry Lakes Stadium at Floreat, a world-class aquatic centre at Beatty Park, a banked cycling velodrome at Lake Monger and a Games village of 150 houses, 3 kilometres from the stadium.

The program comprised nine sports. Track and field was held at Perry Lakes Stadium, boxing at Perry Lakes basketball hall, wrestling at Royal Kings Park Tennis Club, fencing at the Army Drill Hall in Victoria Park, rowing on the Canning River, lawn bowls at Dalkeith Bowling Club, track cycling at Lake Monger Velodrome, swimming and diving at Beatty Park Aquatic Centre, and weightlifting at South Perth Civic Centre. The road cycling race was held at Kings Park, while the marathon was run on an out-and-back course from Perry Lakes Stadium to Wanneroo in Perth's northern suburbs.

The event was Perth's first major international sporting occasion and proved highly successful for the state's athletes. Trevor Bickle (pole vault), Dixie Willis (800 metres) and Ian Tomlinson (triple jump) won track and field gold medals. Other track and field highlights included New Zealander Peter Snell effortlessly taking out the 880 yards–one mile double, his compatriot Murray Halberg running strongly to win the 3 miles, and Canadian Bruce Kidd toying with the field in the 6 miles. Swimming was a major highlight, with eight world records broken. Sydney's 'golden girl' Dawn Fraser took out the 110 yards–440 yards double and anchored Australia to victory in both women's relays. Fellow NSW competitor Murray Rose won three individual gold medals and WA swimmer David Dickson anchored Australia to two relay gold medals.

The Games placed Perth in the international limelight and led the way to WA hosting a wide range of international sporting contests during the last three decades of the twentieth century and into the twenty-first century. **David Marsh**

See also: Athletics; Boxing; Cycling, sport; Lawn bowls; Perth; Swimming
Further reading: J. Blanch and P. Jenes, *Australia's complete history at the Commonwealth Games* (1982); Cleve Dheensaw, *The Commonwealth Games: the first 60 years, 1930–1990* (1994); C. J. Edmonds, with N. J. Wilmont (eds), *The official history of the VIIth British Empire and Commonwealth Games* (1962); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); W. Vamplew, K. Moore, J. O'Hara, R. Cashman and I. Jobling (eds), *The Oxford companion to Australian sport* (1997)

Empire, relations with The British Empire brought Western Australia into existence and continued to influence its development long after Australian federation in 1901.

After more than two centuries of European disinterest in what seemed to be a useless and desolate coast, the British occupied WA for strategic and economic reasons. During the wars against the French Revolution and Napoleon (1792–1815), Britain worried that French exploration of the south-west coast might lead to an occupation that could threaten supply lines to their New South Wales penal settlement. During the same period a boom in wool used in military uniforms demonstrated the potential of the Australian colonies to sustain vast flocks of sheep. In the postwar years advances in shipping technology and worries about overpopulation drew more attention to Australia, which resulted first in the occupation of King George Sound (1827) and then the Swan River districts (1829), with British sovereignty claimed over all of WA in 1829. Without protection from the Royal Navy, the settlements would never have been attempted. The annexation extended the entire British legal system to the colony and limited the ability of settlers to write new laws that contravened existing laws.

Old histories of the British Empire assert that Britain had learned from the American experience that institutions of self-government were vital if future revolutions were to be avoided. In fact, it would be a long time after the American Revolution before any more British experiments in self-rule were attempted (apart from the Maritime colonies of Canada and some West Indian colonies that had possessed legislatures before the American revolt). In the 1830s self-governing municipal governments appeared in Upper Canada, followed closely by the first Australian city government in Adelaide. Not until failed revolutions in Upper and Lower Canada in 1837–38 was the issue of colonial self-government revisited in the Durham Report (1838). Lord Durham's recommendations paved the way for an orderly path to responsible government—the system

Children pictured building a huge bonfire in preparation for Guy Fawkes Night, 4 November 1955. Courtesy West Australian *(X7271)*

whereby a colonial prime minister backed by a majority in a Legislative Assembly would automatically have the Acts of that Assembly endorsed by the governor (except in matters of foreign policy and defence).

In the colonies the policy of retrenchment expressed itself in a drive to make colonial government pay for itself through taxation. It had been precisely that kind of policy that had led to the American Revolution back in the 1770s. New taxes aimed at paying the expenses of the 'French and Indian War' (1756–63) had outraged American colonists, who raised the cry of 'no taxation without representation'. In the mid nineteenth century British governments tried a different tack. They allowed self-government in return for the promise that colonial legislatures would pay for everything except the army and navy. A series of British acts of parliament in the 1850s extended self-government to the Australian and South African colonies, as well as to New Zealand. In 1867 most of Canada was federated into a single self-governing

Dominion—an act that saved even more expense for the British taxpayer.

One reason that the British were slow to extend the same money-saving policy to WA was that they feared that governments dominated by white settlers might trample on the rights of Aboriginal people, or even provoke an Aboriginal revolt. Settler encroachment on Indigenous lands had led to expensive wars in New Zealand in the 1860s and in South Africa on many occasions between 1815 and 1880. Fearing that the small European population of WA would need to call for British miliary help in the event of an Aboriginal rising, or outrage liberal opinion by imposing unjust laws, the British government only extended rights of self-government to WA in 1889 on the condition that one per cent of the revenue or £5,000 (whichever was greater) was spent on Aboriginal welfare each year.

Even after that constitutional provision had been overridden in 1898 and WA joined the Commonwealth of Australia in 1901, the British Empire continued to exercise an important influence. Streets, squares and parks in Perth and many country towns are named for British monarchs, aristocrats and politicians. The architecture of Government House and many other public buildings imitates British models. Until the second half of the twentieth century a declaration of war by Britain automatically entailed Australian participation. This was enthusiastically endorsed by much of the Western Australian population, who revered the monarchy and were very much aware that the state depended absolutely on protection from the British navy. That was the reason so many young Western Australians volunteered to fight for 'king and country' in faraway places during two world wars. **Norman Etherington**

See also: Annexation, acts of; British maritime exploration; Constitution; Foundation and early settlement; French maritime exploration; Governors; Royal tours
Further reading: W. R. Louis (ed.), *The Oxford history of the British Empire* (1998)

Energy, renewable Energy captured from ongoing natural processes, or renewable energy, met the needs of generations of Aboriginal people in Western Australia and was also harnessed by colonists in the form of wood for cooking and heating, and wind and water power for pumping and milling. The twentieth century saw the increasing use of non-renewable fossil fuels, though renewable energy sources were also developed, including a hydroelectricity plant at Pemberton in the mid 1930s and domestic solar hot water systems in the 1950s. Tidal power was also considered as early as 1962, and detailed studies of tidal resources in the Kimberley were carried out in 1964–65. However, interest in renewable and alternative energy really took off with the 'oil shocks' of the 1970s. As the price of oil skyrocketed, WA looked increasingly to renewable energy, especially for regional electricity generation. Several technologies were tested, including wind turbines on Rottnest Island from 1980, a solar thermal power station at Meekatharra (operational 1982–85), and solar air-conditioning systems in Perth and the Pilbara. By the mid 1980s, falling oil prices and the completion of the North West Shelf gas pipeline had rendered the search for viable renewable energy technologies less urgent. In 1987, however, six turbines made by local firm Westwind were installed at Salmon Beach near Esperance, forming Australia's first wind farm. Amid rising concern over global warming, the 1990s saw several commercial-scale developments, including landfill gas, biogas from sewage, and commencement of work on the Albany wind farm, which was completed in 2001. Interest in tidal power was also renewed in the ten years from 1994–2003, with several studies and proposals—all rejected or withdrawn—for tidal power stations in the Kimberley. **Andrea Gaynor**

See also: Conservation and environmentalism; Energy, sources and uses; Environment

Energy, sources and uses All cultures burn fuel to create energy, ranging from heating and cooking to industrial processes. The most important initial development was the efficient steam engines that became the motive force of the Industrial Revolution. Steam engines were among the earliest heat engines, machines that convert chemical energy stored in materials such as wood or coal to mechanical or electrical energy through burning. Before these new engines were developed many cultures developed forms of natural energy use such as water wheels and windmills and these were among the first forms of energy use in colonial Western Australia.

The first readily available source of chemical energy for heat engines in WA was wood, but it provided relatively little energy for its bulk and weight. Nevertheless, the first use of steam power in the state was a flour mill established in 1839. The first gas produced in WA for lighting in 1849 was made in a plant using grass trees from Kings Park. Settlers also used whale oil and later kerosene for lighting, and firewood for cooking. Coal, a more efficient source of energy, was not immediately available in WA and had to be imported. A little coal was discovered in 1846 but good local supplies did not become available until 1897 when coalmining commenced at Collie.

Wood and coal are difficult and expensive to transport, so more efficient ways of transporting energy were sought. The first successful production of gas from coal was undertaken by the Fremantle Gas Company in July 1883, supplying twenty customers. Fairly quickly other coal gas generating plants and distribution systems were established in the state.

The possibility of using electricity to transmit energy began to emerge in the 1850s, and by the 1880s it was the most efficient form of energy transmission in WA with energy generated by a heat engine in one place being conveniently transmitted to another place. The first electrically powered lighting occurred in Perth in 1888, and within a few years a number of electricity generating plants and transmission systems were supplying both commercial and domestic consumers. After the Second World War the WA government embarked on a scheme to transmit electrical energy across the south-west corner of the state.

While electricity became the primary source of energy transmission, gas made from coal remained a significant source of energy with gas works and transmission pipe systems being set up in many major towns. In 1975 the state government merged the Fuel and Power Commission and the State Electricity Commission to create the State Energy Commission of Western Australia to bring efficiencies in the industry. They were separated again in 1995 to create Western Power and Alinta Gas, to introduce competition to the state's energy industry.

The other form of energy to become important in WA was oil and the various fuels that are distilled from it, such as petrol, kerosene and fuel oil. These became particularly important in the development of motor transport, but the low price of oil made it attractive for many other uses, from home heating to railway locomotion and electricity generation. During the 1950s an oil refinery was commissioned at Kwinana to make oil-based fuels cheaply available across the state.

The crises in the Middle East in the 1970s began the escalation of oil prices that reduced its attractiveness as an energy source. As a result, other energy sources were sought. In the mid 1970s consideration was given to using nuclear power to generate electricity, but it was found not economically feasible. Instead, the discovery of large reserves of natural gas off the North-West Shelf led to construction of a 1,500-kilometre-long pipeline to transmit natural gas to the state's south-west. There it replaced coal gas and was used for many purposes from domestic cooking and heating to electricity generation.

The rising costs of fuels like coal and natural gas, and fears about their long-term viability, have turned interest back to natural or 'renewable' energy sources. These include the establishment of wind farms and solar energy collection systems to generate electricity and the use of gas produced in waste dumps. These may be the beginnings of the next stage of energy generation and use in WA. **Leigh Edmonds**

See also: Coal; Electricity; Energy, renewable; Oil and gas; Power stations

Further reading: L. Edmonds, *Cathedrals of power, a short history of the power-generating infrastructure in Western Australia 1912–1999* (2000); R. G. Hartley, *Industry and infrastructure in Western Australia 1829–1940* (1995)

Engineering profession Only a handful of professional engineers worked in Western Australia during its first sixty years. The first colonial Civil Engineer, Henry Reveley, was responsible for the construction of a variety of essential public buildings and works during the first nine years of the colony. The young officers of the Royal Engineers, who were part of the Convict Establishment from 1850 to 1868, left a legacy of well-built public buildings and a much improved transport infrastructure. James H. Thomas, an experienced engineer from New South Wales, was appointed the first Government Engineer in 1876, and was responsible for the construction of the key railway service from Fremantle to Beverley.

The gold boom period from 1890 to 1905 was a time of unprecedented activity in the construction of public works, which attracted many professional engineers from the eastern colonies who had been hit by the 1890 depression in eastern Australia. Charles O'Connor, an Irish engineer working in New Zealand, was appointed the first Engineer-in-Chief in 1891 and, under the government

policy of rural development through public works, the Public Works Department (PWD) grew rapidly from fewer than ten members in 1893 to over 600 in 1897 (102 of whom were engineers). O'Connor was, to a large extent, responsible for establishing professional engineering in WA. He set up PWD cadetships for young men under indenture to the (British) Institution of Civil Engineers, of which O'Connor was a member. To reduce the number of acrimonious disputes with contractors he developed a system of arbitration, which significantly speeded up resolutions and made them more equitable.

The state's engineers formed their own professional institution, the Western Australian Institution of Engineers (WAIE), in 1909. Membership was open both to those who had qualified by examination and to those who had trained as indentured pupils. The Institution had a non-student membership of 140, which represented almost all the qualified men working in the state, except for the mining engineers who already had their own national professional body, the Australasian Institute of Mining Engineers (AusIME).

The lack of academic engineering courses in the state was rectified in 1913 with the opening of The University of Western Australia, of which the School of Engineering and Mining was a foundation school. The first woman to graduate as an engineer from the university did so in 1971.

In 1919, twelve of the fifteen professional engineering institutions in Australia, including the WAIE, amalgamated to form the Institution of Engineers, Australia (IEAust) as a means of providing uniformly high professional standards. The WAIE became the Perth Division of the IEAust. The Division had only seventy-nine foundation members (all grades included) as a number of O'Connor's engineers were nearing retirement and declined to join.

The mining and railway boom of the 1960s brought to the state many engineers

trained outside WA, and in the ten years to 1973 membership of the Perth (renamed Western Australian) Division doubled, reaching 2,002 (all grades). During the second half of the century the distribution of engineer employment in Australia changed significantly. In 1939 the percentages of engineers in the public and private sectors were 61 and 39 respectively. By December 1999 an Australia-wide survey found that the two percentages had largely reversed, to become 35 and 65. This reversal has been attributed to increased opportunities and expertise in the private sector, and to the privatisation and downsizing of public-sector engineering providers. The latter has sometimes resulted in a diminution of the tradition of objective service, some loss of accumulated departmental expertise, and the less effective dissemination of technological advances.

Over the last thirty years the proportion of professional engineers in the community has doubled, which reflects the growing responsibility of the profession to the service of the community. It is notable that while fewer than 7 per cent of Australian engineers are women, in 2000 more than 15 per cent of engineering students were women. **Richard G. Hartley**

See also: Infrastructure and public works
Further reading: A. H. Corbett, *The Institution of Engineers Australia: a history of the first fifty years, 1919–1969* (1973); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

English immigrants Although estimates of the numbers of British migrants arriving in Western Australia generally include persons born in England, Scotland and Wales, England-born have traditionally been the most numerous. Equally important has been their role and influence in creating a society whose language, politics and patriotism were basically British, with the institutions they established during the colony's formative years remaining largely intact.

The so-called 'Swan River mania' of 1828 attracted mainly young persons (three-quarters were under thirty years of age), predominantly males from major cities in south-east England, including one-quarter from London. Of those enumerated in the colony's 1829 muster (excluding soldiers and 'recent arrivals'), 92 per cent were English, although some, including the Henty family, soon moved to other Australian colonies. According to 1832 records, 78 per cent of the settlers had been born in England and 5 per cent in each of Scotland and Ireland. The decline in percentage of England-born is explained by the presence of children born in the colony itself after 1829.

With the dearth of labour a major constraint on the colony's early development, many schemes were devised by the colonists to attract British migrants, of whom the English remained the majority. Though reasonably successful, it was the introduction of male convict labour in 1850, and the British government's agreement to also subsidise the entry of equal numbers of free settlers, especially single females, that led to the arrival of 9,721 convicts and 6,122 assisted migrants (including many Irish women) by 1870. In that year, non-colony-born persons who had been born outside the United Kingdom and Ireland comprised a mere 3 per cent of the colony's non-Aboriginal population. Even the 'demographic watershed' of the 1890s gold rushes, and the subsequent arrival of the gold diggers' families, did little to erode the English domination of Western Australia's population. Many migrants came from other Australian colonies, especially Victoria, then in economic depression, including some who had come initially from England and were later joined in WA by their Victoria-born children. Thus, by 1901, of the 47,565 persons who had been born in Europe, 25,376 had been born in

England, 9,862 in Ireland, 5,400 in Scotland and 909 in Wales.

From Federation to the Second World War, after which immigration policy was determined by the federal government, WA continued to strongly encourage immigrants from Britain, especially through land settlement schemes. Between 1908 and 1913, of the 46,473 immigrants who arrived, 30,811 were financially assisted. Similar support was given to British migrants during the inter-war period when thousands entered the state as group settlers under the UK–federal–state sponsored Empire Settlement Scheme.

The Second World War had a major impact on Australia's appreciation of the need for immigrants to help increase its population from seven to twenty million by the end of the twentieth century. Arthur Calwell, the first Commonwealth Minister of Immigration, declared from the outset the government's plan for postwar migration, that British migrants would be given top priority (ten for every one from other countries), and then negotiated a generous assisted passage scheme to try and achieve that objective. During the first years of the scheme (1946–55), WA received more than its share of English migrants, partly because so many locals had nominated relatives still living in England. Recession in WA during the late 1950s reduced, but did not retard, the arrival of English migrants. Then in 1964 the state government, through its agent-general in London, established an office to recruit British migrants, and until 1971 actually nominated half the number of assisted British migrants to WA. Indeed, of the 400,000 English migrants added to Australia's population between 1954 and 1981, almost 90,000 arrived in WA, due in no small part to the state's consistent efforts to attract them.

As a result of these efforts, and the sustained English base of the state's population since first settlement, the percentage of

UK/Irish born persons has remained much higher in WA than for the nation as a whole: in 2001 the figure was 11 per cent in WA compared with 5.5 per cent for the nation. The 2001 census also showed that when they were asked to count their 'ancestry' back as far as three generations, 40 per cent of people in WA identified it as English, 3.4 per cent Scottish and 0.66 per cent Welsh. At the 2006 census 731,015 Western Australians claimed English ancestry.

The 1996 census had already shown that British (and Irish) born persons in WA were concentrated in specific electorates: Moore (22.4 per cent), Brand (19.8 per cent) and Canning (18.2 per cent), the three electorates described by James Jupp as the 'most British in Australia'. A special survey conducted of England-born persons in the Canning electorate a decade earlier (1986) showed that London and the north-west regions had been the main contributors. Almost one-half of the England-born were from the four largest conurbations in England. They did not differ socially from the Australian-born among whom they lived, 58 per cent describing themselves as working class. **Reginald Appleyard**

See also: Child migration; Group settlement; Irish; Migrant reception; Migration; Scots; Welsh

Further reading: R. Appleyard, 'The Anglo-Australian Foundation', in R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004); R. Appleyard, A. Ray and A. Segal, *The ten pound immigrants* (1988); J. Jupp, *The English in Australia* (2004)

Entrepreneurs have played a colourful and sometimes beneficial role in Western Australia's development, though, in the WA context, 'entrepreneur' has also sometimes come to be associated with sharp practice. The sometimes extraordinary cycles in the

state's mining industries have produced many who might merit this description, but it is easy to overlook the vigour and imagination entrepreneurs often applied to new ventures. Industries were launched because of their boldness; if investors lost money in their companies it was the outcome of a willingness to take risks for big returns.

The gold discoveries of the late nineteenth century produced the colony's first large-scale promoters, or entrepreneurs, and it was a nightly entertainment in the raw streets of early Kalgoorlie to attend share auctions. Anyone could stand on a box and offer shares, often for as little as a penny each, in some new 'el dorado'; later more formal trading was introduced in the city's stock exchange. Most of the early capital for these risky mining ventures—hundreds of millions of dollars in 2005 values—came from London. As early as 1894, seventy-one companies were promoted and floated to mine around Kalgoorlie, but no more than six of them made profits and none survived long enough to give their supporters much joy.

One of the best-known entrepreneurs (though the term was not employed then) was Claude de Bernales, a company promoter who, in the 1920s and 1930s, was a leading figure in the gold industry. His flamboyance was a forerunner to some of the extravagances that were to appear in a later generation. He came to WA from London as a twenty-one-year-old and, with a mixture of great plausibility and financial flair, quickly became a leading figure in the state. Lasting memorials to him include his Perth residence Overton Lodge, now the Cottesloe Civic Centre, and London Court, in the heart of Perth's retail district. By the beginning of the Second World War, however, he was under investigation in Britain for company irregularities, though no charges were ever laid against him.

De Bernales was the best known of many company promoters who roamed the Eastern Goldfields, famous for their lavish lifestyles. Like others of his kind, he impressed

potential investors by hosting banquets deep underground, surrounded, it was claimed, by wealth just waiting to be extracted. There were many practices to seduce the unwary. As holes were drilled in a mine face, gold dust was tamped into them with explosives, so that when the loose rock was analysed after blasting there would be healthy grades, convincingly disseminated throughout the bulk sample.

Entrepreneurs appeared in WA whenever there was a sudden demand for a commodity: after a number of gold booms; the first oil strike in Australia in 1953 at Rough Range near Exmouth; during scrambles to find nickel and diamonds in the 1960s and 1970s. There were also entrepreneurial fevers in property development. After many of these episodes legislative attempts were made to introduce measures to protect investors from the worst abuses, but when the next boom appeared, the lessons seemed forgotten.

There is a view throughout Australia that Perth produced more than its share of entrepreneurs, and indeed a group of them who occupied the same building during the 1969–70 nickel boom were known nationally as 'the Hay Street Boyos'. In that period, subterfuge and industrial espionage were raised to new heights. Aircraft would fly over drilling rigs and the colour of the discarded material and the angle of rigs, could tell geologists something about the exploration's progress. Outback telephone exchange staff were bribed to listen to conversations between company officials. Codes were employed and 'stings' were mounted (operations in which the market was to be persuaded to expect a particular outcome) in order to drive up or drive down a share's price.

Some of the entrepreneurs went on to establish more sedate businesses, and few regretted their rakish past. **John McIlwraith**

See also: Entrepreneurs, immigrant; Entrepreneurs, theatrical; Gold; Nickel; Real estate and land development; Stock Exchange

Further reading: G. Casey and T. Mayman, *The mile that Midas touched* (1964); J. McIlwraith, *A century of scripping: the history of the first 100 years of Eyres Reed Limited, stock broker* (1996)

Entrepreneurs, immigrant Because the Swan River colony was British, so too were its first entrepreneurs. Most influential were salaried officials; with an income from government service as well as land holdings, their investments grew rapidly. Larger merchants who also left enduring legacies of their presence included individuals such as Lionel Samson, John Bateman, William Dalgety Moore and Mary Higham. Prominent in Perth were William Habgood and George Shenton, who could buy and sell most of officialdom, and William Lamb and George Leake.

By the 1870s the colony also had a number of self-employed Chinese immigrants, drawn here by the pearling industry and the discovery of gold, or recruited as indentured labour. Restrictive and racist colonial legislation (*Sharks Bay Pearl Shell Fishery Act 1886*; the *Goldfields Act 1886*) forced many into other employment spheres. Chinese came to dominate the self-employed sector in market gardening, laundry enterprises, furniture making and grocery stores in metropolitan Perth and the North-West. By 1901, Chinese-owned market gardens were located throughout the metropolitan area and country towns where fresh ground or river water was accessible and transport to the markets possible. These employed approximately half the state's Chinese population. However, the Commonwealth's *Immigration Restriction Act 1901* prevented the arrival of more Chinese to replenish the labour supply, and only the South Perth gardens survived, operated by increasingly elderly Chinese into the mid 1950s. The state's 1904 *Factory Act* was also designed to limit the growth of Chinese factories, laundries or other Chinese investment in the state, defining as a factory 'any building,

premises, or place' in which a Chinese 'or other Asiatic' person worked. 'Factory' working hours and Chinese ownership were severely restricted; factory registration was discriminately expensive; and furniture had to bear the stamp 'Asiatic labour'.

In every decennial census from 1921 to 2001, immigrants were more likely to be self-employed than mainstream Australians. However, there is a great variation in participation rates among the groups. In WA, if two generations are counted, the Greeks, Italians, Dutch and ethnic Chinese have the highest profiles.

In the period before the Second World War, immigrant businesses flourished when pioneer entrepreneurs sponsored relatives and friends from their homeland to provide their fledgling businesses with compatriot employees. The skills the compatriots picked up gave them many opportunities for small business activities. Among the Southern Europeans (who were also discriminated against on the goldfields), Dalmatians established the viticulture industry in the Swan Valley; Italians the orchards in the Donnybrook and Pickering Brook areas, market gardens near Perth, Pemberton and Harvey and the fishing industry in Fremantle; and Greeks the cafés and fruit and vegetable stores found scattered around rural and urban WA.

First-generation immigrant firms are usually quite small and tend to employ co-ethnics and family via a hierarchical family structure that operates on loyalty and a future-oriented philosophy. These principles result in hard work, long hours and few free days. Such enterprises revitalised the inner city at various times under the banner of 'Little Italy', 'Little Athens' or 'Little Saigon'. The Italian-owned Re Store (1923) and Greek-owned Kakulas Brothers Store (1929) survived longest and are now operated by third-generation family members.

In contrast, very different self-employment patterns emerged from the mass migration era following the Second World War. These reflect

the Department of Immigration's recruitment procedures, put in place to restore essential services to prewar levels, expand the burgeoning manufacturing, building, construction and heavy industry sectors and maintain the war-boosted economy. Subcontracting became the more appropriate prospect for immigrant tradesmen in a marketplace hungry for trades skills. Unskilled migrants gravitated to self-employment in food or the service industries. Following the abandonment of the White Australia policy in 1973, most suburbs came to sport at least one 'oriental' shop. **Nonja Peters**

Further reading: A. Atkinson, 'Placing restrictions upon them: controlling "free" Chinese immigrants and capital in Western Australia', in J. Gothard (ed.), *Asian orientations: Studies in WA History*, 16 (1995); E. Czeladka and C. Polizzotto, *To make a better life: Yugoslavs in the Swan Valley* (1988); N. Peters, 'Trading places: Greek, Italian, Dutch and Vietnamese enterprise in Western Australia', PhD thesis, UWA (1999); J. Yiannakis, *Megisti in the antipodes: Castellorizian migration and settlement to W.A., 1890–1990* (1996)

Entrepreneurs, theatrical The 1890s were a magnet to theatre managers as well as those seeking their auriferous fortune. In 1895 Annie Oliver opened her Cremorne Gardens, just down from Royal Perth Hospital, and imported many noted vaudeville and variety artists. The first joint managers of the Theatre Royal (1897), George Jones and George Lawrence, opened with a spectacular production of *The Silver King*, with C. R. Stanfield in the lead, but their ambitious ventures resulted in insolvency. And in 1896 Edward Reynolds opened the Cremorne Gardens in Albany, and imported artists from Perth for his summer season.

There was little difference in the 1890s between a theatre manager and a theatrical entrepreneur. But Western Australia was

home to Anita Fitzgerald, brothers Eric Edgley and Clem Dawe, Eric's son Michael, Frank Baden-Powell, John Manford and John Thornton, each a distinguished theatre entrepreneur.

Fitzgerald (better known in later life by her married name, Le Tessier) established herself as a professional producer in the 1920s, initially with the Repertory Club and then on her own as Anita Fitzgerald Productions, based at His Majesty's Theatre. Her first commercial success was *Brown Sugar* (1926). She was one of the first in Perth to use billboard advertising, and to put posters on the sides of trams. Her last production was *The Desert Song* (1951) for the City of Perth Concert Artists.

The Edgley family controlled His Majesty's Theatre from 1952 to 1976. In 1960 Edgley & Dawe began importing attractions from Eastern Europe and the Soviet Union, among them Stars of the Bolshoi Ballet (1962), The Georgian State Dance Company (1963) and the Osipov Balalaika Orchestra (1967).

Michael Edgley International Pty Ltd is known for theatrical diversity and grand-scale productions. The Great Moscow Circus tour of 1968 was seen by 1.2 million people and grossed $7 million. The young Edgley was a partner in the consortium that built the Perth Entertainment Centre (1974) and he used this venue for some of his most ambitious productions: Shirley Bassey (1975); *Disney on Parade*; the Bolshoi Ballet with Maya Plisetskaya (1976); London Festival Ballet with Rudolf Nureyev (1975 and 1977); and the D'Oyly Carte Opera Company (1979). Edgley has been particularly interested in film since the success of *The Man from Snowy River* (1982), and *Phar Lap* (1983), which grossed $20 million in Australia and $25 million in the United States.

Baden-Powell, in association with John Gill, established Perth's first theatre-in-the-round (the Hole in the Wall Theatre) in 1961 and developed the theatre-restaurant market with Coralie Condon (the Olde Time

Music Hall) in 1967, followed by Diamond Lil's theatre restaurant and Dirty Dick's Bawdy Banquets. The Music Hall Company expanded into Australia's largest chain of theatre-restaurants.

John Thornton, at the Regal Theatre, Subiaco, is today the person most locally identified with theatre entrepreneurship. **David Hough**

See also: Dance, performance; Music; Musical theatre; Opera; Theatre and drama; Theatres, buildings

Further reading: D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004); D. Hough, *The chameleon's dish: essays in journalism* (1991); P. Parsons (ed.) with V. Chance, *Companion to theatre in Australia* (1995)

Environment The environment of Western Australia was first perceived by *Homo erectus* and *Homo floresiensis* from Indonesian islands as smoke, cloud and dust plumed across the water. There was land and fire, and perhaps other people, to the south. Exploratory investigation did not occur until the later arrival in the Indonesian archipelago of *Homo sapiens* around 75,000 years ago. Curiosity was raised and the massive Toba eruption on Sumatra, about 73,000 years ago, eventually compelled people to migrate across the Timor Sea and settle on the Kimberley coast. This most probably occurred at times of low sea level, either between 60,000–70,000 years ago or, at the latest, by 45,000 years ago. Thus commenced direct observation and interaction with local WA environments.

Movement of peoples south and inland, with rich cultural diversification, led to multiple understandings of WA environments reflected today in language, rock art, artifacts and cultural traditions. Among Nyoongars of the South-West, for example, six seasons are recognised, each heralded by annual changes in the weather, in the night sky, and in the life of plants and animals, terrestrial, estuarine and marine, intimately known in local areas. A rich vocabulary for country and vegetation pertaining to fire and its use still exists. Knowledge of plants and animals used for food, medicines and artifacts is extensive, but is so specific to local country that, during colonial expeditions, some Nyoongar guides were at a loss as plant food gatherers when they were more than a hundred kilometres from their own land. Much remains to be documented of this profound and diverse Aboriginal environmental knowledge.

Other peoples similarly approached WA from the ocean and thus paid initial attention to coastal environments. Observations by Macassans, possibly the Chinese in 1421 and Portuguese mariners are unrecorded except perhaps in the earliest surviving maps depicting the Great South Land, where aspects of the WA north and west coastlines are discernible.

The idea of a fertile southern utopia abounding in riches and waiting to be tamed has a long history in European religion, romantic literature and speculative science. It motivated the Dutch to consider exploration of the WA coast, despite the earliest reports of treacherous reefs, few safe harbours, and an arid barren country sparsely inhabited by people with a disappointing lack of material possessions, no precious metals, no settlements and no apparent leadership. Yet this did not inhibit Coen, the first Governor-General of the Dutch East India Company, to issue instructions for a voyage from Batavia south in 1622, requesting the crew 'specially to inform yourselves what minerals such as gold, silver, tin, iron, lead, and copper, what precious stones, pearls, vegetables, animals and fruits, these lands yield and produce'. This voyage was cancelled, but others soon followed, and even today the mass media remains replete with stories repeating Coen's optimism regarding acquisition of material wealth in WA.

As early settlers, captured by Swan River mania, rapidly discovered on arrival in 1829, WA reality differs significantly from the utopian dream. True, the mineral wealth anticipated by Coen exists, and the land yields and produces agricultural and other products in some places, but these goods have been gained at great human and environmental cost.

Contemporary environmental knowledge of the state draws on observations pioneered by maritime and terrestrial explorers and naturalists, followed by records of first and subsequent settlers, with an exponential increase in understanding arising from professional scientific activity over the past century. Of necessity, earliest attention was oceanographic and climatic (especially measurements of wind, temperature and rainfall). Coastal geomorphology and the presence of sources of food and fresh water also featured prominently.

Some unusual marine facts came to light as the Dutch first sailed the Western Australian coast in the 1600s. Marine mammals and seabirds were scarce. Coral was seen much further south than in other places—resplendent at Ningaloo Reef north of Shark Bay, but also at Houtman Abrolhos islands near Geraldton, at Rottnest, and even in the Recherche Archipelago on the south coast off Esperance. Waters down the west coast were unusually warm, unlike the coldwater marine currents seen on every other continental western coastline in temperate altitudes, all upwelling with rich nutrients and abounding in plankton, fish, seabirds and marine mammals. Tidal ranges found in northern WA were among the largest known, while near Perth and south they were modest. Yet south-west beaches expanded in width in summer and contracted in winter.

Such mysteries were resolved only in 1980 when the Leeuwin Current was identified convincingly by G. R. Cresswell and T. J. Golding. It is a warm coastal current from the north, strongest in winter, penetrating all the way to Cape Leeuwin and eastwards.

It provides clear water, low in nutrients, but ideal for the growth of seagrass beds, which are more extensive along the WA coast than anywhere else. The current enables an extraordinary mix of tropical and temperate marine biodiversity to occur down the west coast, and ensures that the south coast has one of the richest algal floras. Moreover, studies of marine warm-water fossils in southern Australia reviewed by B. McGowran and colleagues in 1997 showed that the current has been active for 40 million years since Australia separated from Antarctica. It ceased flowing only during glacial low sea levels over the past two million years when the Torres Strait closed.

Today in the South-West, fisheries are declining one by one, and signs of major disruption to marine ecosystems are evident in shallow waters nearest centres of human activity. A recent trend to create marine national parks is heartening, but much remains to be done before marine biodiversity conservation and sustainable fisheries are assured. Formation of a state-funded major marine research institute occurred in 2005 to address these needs.

On land, early European speculation about high mountains and an inland sea in WA were dispelled by explorations in the 1860s. Indeed, with some prescience, Charles Riche, doctor/naturalist on D'Entrecasteaux's expedition of 1792, while lost near Esperance wrote: 'Looking towards the north, the interior was very visible far inland; the country was very fertile, and columns of smoke were rising a few leagues away. The mountains at the horizon very far in the distance were not very high. It is remarkable that granite, which forms the core of all the high primitive mountains of the globe, is here the foundation of an immense region, very smooth and nearly at sea-level in its entire expanse'. Although the speculation about fertility would not prove true, Riche conveyed the first European recognition of the immensity of the Yilgarn Block, a vast

granitoid craton underlying more than a third of WA from the south coast north to the Ashburton, and extending from the Darling Scarp east to the Nullarbor. Riche's use of the term 'primitive' was also prescient, as it is now known that these granites are among the oldest known, dated at half the age of the earth itself. The observation that the 'mountains…were not very high' proved true for the whole state, with the tallest, the Pilbara's Mount Meharry, reaching only 1,245 metres as a small eminence from the great plateau of WA.

Early European ideas of the age of Australia were advanced by the French savant George Louis Buffon (1707–88), who postulated that it was a young continent, especially the west, evidenced by the sandy nature of the soil and low coastal vegetation. Recent emergence of the land from the sea became conventional wisdom repeated right through to the 1930s. Settlers at Swan River used this line of reasoning to account for the paucity of fertile soil, and to explain the flat terrain and presence of great inland salt lakes. It was consistent with biblical accounts of the Great Flood and ideas of a very young earth, widely held views arising from a literal understanding of the Old Testament. Yet many contradictory facts emerged with environmental exploration, and the broader revolution in evolutionary thinking when Charles Darwin published *On the Origin of Species* in 1859. His friend, British botanist J. D. Hooker, noted in 1860 the anomaly of such a supposedly young land in southwest Australia having an extraordinarily rich native flora full of endemics. Elsewhere such endemics were concentrated on old landscapes. Inland exploration revealed that marine fossils were conspicuous by their absence on most of the Yilgarn Block, save the Norseman area, as were marine sedimentary rocks.

By the early 1900s a new interpretation of WA as old landscape took hold. Geological exploration revealed that the Yilgarn Block

had been levelled by Permian glaciers from 320–290 million years ago, with only modest marginal uplift and localised mountain building thereafter (e.g. the Stirling Range). Moreover, modern radiometric dating techniques established the great age of the underlying granitoid bedrock. This contrasts dramatically with most European landscapes, their bedrocks and mountains much younger, and soils rejuvenated with fertile mineral earth by glacial action as recently as just 18,000 years ago.

Geomorphologists continue to marvel at and explore this theme of extraordinarily old, weathered landscapes in WA, stable within the centre of the Australian continental plate, with little recent mountain building or uplift. Some of the granite hills of the Yilgarn Block, such as The Humps near Hyden, have been emergent landscapes for more than 100 million years, when dinosaurs roamed the WA part of Gondwana.

It has been discovered that the classic lateritic gravel duricrusts, capping flat-topped mesas inland and covering jarrah forest landscapes, are of variable age and origin, some old, others recently formed and still forming. Sandplains likewise are of variable age, many old, deeply weathered and leached of nutrients, derived from local granite bedrock. Others are younger, pushed about by the wind, especially the vast dunefields of the sandy deserts and smaller mobile dunes spotted along coastlines. But these are not fertile post-glacial soils, and there are obvious ramifications for agricultural practice. Indeed, it was only when superphosphate and trace element fertilisers were introduced half a century ago that much of the sandplain country of the Wheatbelt was cleared and brought into agricultural production.

While so much is old, weathered and leached in WA, Buffon's ideas of youthful landscapes and geology do apply to the coastal margins of the state. Contemporary geomorphology indicates a dynamic coastal history associated with sea-level changes

during the climatically turbulent past two million years, and earlier periods of higher and lower sea level. Coastal flora and fauna are well-adapted to disperse widely and colonise newly exposed coastal landforms, making use of littoral plants in landscape restoration relatively easy in today's upsurge in volunteer environmentalism through programs such as Coastcare and Landcare.

Freshwater wetlands and alluvial riverine and estuarine flats were recognised early as special habitats in the South-West. Treasured by Nyoongars as vital places for life in the annual cycle, settlers too sought them out. It was discovered that their margins when cleared and sown to pasture offered the best grazing through hot, dry summers. Their depositional soils, richer in nutrients than surrounding terrain, are still prized for horticulture.

However, the presence of freshwater wetlands adjacent to settlements was not tolerated from early colonial times because of the then current miasma theory regarding human diseases. The lake system once occupying much of Perth's central business district was infilled and dispensed with as soon as humanly possible. Similarly, most wetlands on the Swan Coastal Plain, the southern coastal plains and in the Wheatbelt are a shadow of their former selves. Yet recent research shows that they are repairable, far more so in fact than most other ecosystems in the South-West that have also been destroyed or degraded. Of course, extinct endemic wetland biodiversity is beyond hope of return, but many wetland species have wide geographical distributions and survive somewhere to the present, providing building blocks for future restoration efforts.

From the outset of European colonisation, access to wetlands, drylands and minerals by settlers was strictly controlled by the Crown. Early concerns at the loss of valuable common resources such as timber and limestone were reflected, for example, by Surveyor-General Roe, arguing in 1830 that the future Kings

Park should not be surveyed for private acquisition. Shooting out or over-fishing wild game, rapacious logging, despoiling beautiful natural places such as caves at Yanchep and Margaret River, over-picking wildflowers close to Perth, soil erosion caused by over-clearing or overgrazing, and polluting water supplies all led to public concern expressed eventually by government control through legislation. The creation of government agencies responsible for the administration of these controls, commencing in the 1890s, was important, though always controversial in a free-enterprise economy.

Heightened environmental awareness in the 1960s led to the formation of the Environmental Protection Authority and to the progressive separation of government responsibilities for regulation of industry as against promoting exploitative free enterprise that impacted on the environment (for example, the removal from the Department of Conservation and Land Management of the Forests Products Commission in 2000). But the view remains entrenched that, unless government controls are in place, the market should be free to exploit common resources. This dualism between conservation for public good and support for exploitative individual or corporate free enterprise lies at the heart of global environmental problems, and their possible solutions.

A contemporary satellite image of south-west WA highlights the most dramatic impact of this environmental philosophy—the extensive clearing of the Wheatbelt and coastal plains for agriculture, infrastructure and urban development. Impeded by reliance on the axe and saw to clear native woody vegetation, the colonial expansion of agriculture at first concentrated on woodlands on fertile soil husbanded and kept open by thousands of years of Nyoongar land management. However, in less than a human lifetime, following the ready availability of the bulldozer after the Second World War, most that was native, Aboriginal, plant, animal, micro-organism

and topsoil has been destroyed to make way for cereals and sheep, roads and houses. The state's agricultural industry achieved substantial productivity gains through fertiliser enrichment and selection of crops and animals suited to South-West environments. But uncosted and undervalued ecosystem services such as the provision of clean air, fresh water, healthy soils and reliable rainfall were damaged, some to the extent that long-term change for the worse seems inevitable (for example, rising saline water tables and the loss of biodiversity). Earnest attempts to secure more sustainable agricultural practices are a significant contemporary focus.

Commencing with formal reservation of half of present-day Kings Park in 1872, setting aside areas of land for conservation, in the face of massive clearing for agriculture, infrastructure and urbanisation, gained increasing support in the latter half of the twentieth century. South-West forests featured prominently early on. After the First World War, C. E. Lane-Poole, Conservator of Forests, argued passionately for setting aside renewable state forests rather than consigning logged country to agricultural use. His legacy persists, although the forests cover only half the area they once occupied. They are fragmented in places, logged sometimes twice over where economically feasible to do so, but they are still there in sufficient abundance to enable the contemporary push to reduce logging and woodchipping of old growth, to focus on value-adding and a craft-wood industry, and to create many new national parks.

Smaller in extent are those national parks, nature reserves and many other remnants of native vegetation embedded within the now-spartan landscapes of the Wheatbelt and on the coastal plains. The Stirling Range National Park is particularly noticeable on satellite images as a long east–west rectangle north of Albany. Although relatively large, it is riddled with dieback disease, losing rare and common native plants alike in inconceivable numbers. Its extraordinary montane

heaths on the few peaks above one thousand metres, the only types of their kind on earth, are declining rapidly as dieback and frequent fire render threatened plants extinct. This is a place as rich in plant species as all of the UK, a hotspot within an even more remarkable global biodiversity hotspot, as the South-West was labelled in 2000, the only region in Australia so recognised. Other Wheatbelt conservation reserves are similarly rich or nearly so, but embattled with disease, weed invasion, nutrient poisoning from adjacent farmland, salinity, feral animal activity and other uncontrolled negative human impacts. These are highly fragmented but priceless and irreplaceable havens for biodiversity in need of enhanced future care, repair and research if a long-term future is to be possible.

Beyond the South-West, the goldfields, pastoral country, desert lands, salt lakes and subdued hills, dunes and ranges are as described by William Dampier when at Dampier Peninsula in 1699: 'The Land is of a dry sandy soil, destitute of Water, except you make Wells; yet producing divers sorts of Trees; but the Woods are not thick, nor the Trees very big'. Dampier was on the northern margin of the Great Sandy Desert, and identified that water was to be found underground, probably through emulating longstanding Aboriginal practice. 'Making wells' from artesian water provided a foundation for the extension of arid-land pastoralism to cover half of WA within a century of settlement. Environmental changes have occurred, and rangeland management remains a subject of ongoing contention. In arid country only parts of the Nullarbor and the vast sandy deserts lacking accessible water supplies remain unoccupied as pastoral leases. Immense fire scars are plainly in view from satellite images of these deserts, reflecting a post-1960s change from traditional Aboriginal fire management to that administered primarily by lightning or careless travellers.

Further north, the tropical Kimberley is also often ablaze, but this time from fires lit by pastoralists, sometimes annually. The impacts of such burning are only now being investigated, though it is clear that fire-sensitive vegetation and fauna have been on the retreat for many years in the wake of invasive exotic grasses, domesticated stock and feral animals. Lake Argyle, the largest wetland constructed through damming in WA, stands as a monument to failed environmental understanding of the tropical limits to western agriculture.

Mariners such as Abel Tasman and William Dampier first recorded the ragged Kimberley coast, with thousands of inlets, bays and islands, carved from sedimentary rocks by phenomenal tides of ten metres or more in daily magnitude. Today this remains frontier country still, occupied by crocodiles and mangrove, a wilderness attracting adventurous tourists and home to hardy locals able to cope with punishing summer temperatures and humidity. To them, Aboriginal and settler alike, this is utopia, but a dramatically different one from the green and fertile imaginings of generations of Europeans prior to exploration and settlement. Arguably the greatest environmental challenge is to ensure that most Western Australians and visitors develop a more realistic and locally attuned perception of utopia, combined with a compelling desire to stay and live in it sustainably.

Contemporary research shows that there are many emergent unforeseen environmental problems in WA, about which much more needs to be understood: the escalating extinction of globally unique biodiversity; spread of dieback disease; invasion of exotic plants, animals and carriers of human disease; rapid climate change towards desertification; coral bleaching; loss of fish stocks; managing fire and smoke close to urban settlements; rising saline water tables; soil acidification and accelerating demand for fresh water associated with increasing reliance on groundwater. The quests for recycling of non-renewable resources and

for sustainable energy sources continue. Constraining consumption and population size are significant challenges. History shows that learning through research and adaptive management are essential components for any enterprise impacting on WA environments if sustainability and conservation are to be realised. **Stephen D. Hopper**

See also: Aboriginal firing; Acclimatisation; Botany; British maritime exploration; Bushfires; Caves; Coasts; Conservation and environmentalism; Dutch maritime exploration; Ecotourism; Erosion; Exotic fauna; Exotic plants and weeds; Exploration, land; Forestry; French maritime exploration; Geological history; Jarrah dieback; Kings Park and Botanic Garden; Land clearing; Landcare; Marginal areas; Marine environment; National Parks; Ord River scheme; Pastoralism; Plant adaptation; Rivers; Salinity; Sustainability; Vegetation; Vlamingh's journey; Water management; Wetlands; Wheatbelt
Further reading: A. Brearley, *Ernest Hodgkin's Swanland: estuaries and coastal lagoons of Southwestern Australia* (2005); G. Seddon, *Sense of place: a response to an environment, the Swan coastal plain Western Australia* (2004)

Equal opportunity legislation in Western Australia has a history dating back to 1923. When speaking on the proposed *Women's Legal Status Act*, to 'amend the Law with respect to Disqualifications on account of Sex', Edith Dircksey Cowan, Member for West Perth, said: 'women are very desirous… of their being placed on absolutely equal terms with the men, leaving it to be a matter of the survival of the fittest. We ask no more or less than that.'

Fifty-two years later the *Equal Opportunity Act 1984 (WA)* came into effect on 8 July 1985. It was supported in parliament by all parties and by community organisations, after ten years of campaigning by women's groups.

When the Equal Opportunity Bill was introduced into parliament by the newly elected Labor premier Brian Burke, on 16 September 1984, he took the unusual step of delegating the passage of the Bill through the Legislative Assembly to the backbench Member for Gosnells, Yvonne Henderson. As a member of the Women's Electoral Lobby in the early 1970s, Yvonne Henderson had worked with a group of women to develop early drafts of the Bill. This was moved, unsuccessfully due to opposition from the Court government, as a Private Member's Bill on two occasions by Dave Evans (1977), ALP Member for Warren, and by Bob Pearce (1981), ALP member for Gosnells.

The *Equal Opportunity Act 1984* implements, at a state level, Australia's commitments to international human rights instruments. It contained two objects: to promote equality of opportunity in WA and to provide remedies in respect of discrimination on the grounds of sex, pregnancy, race, religious or political conviction, or involving sexual harassment. As community concerns changed, the initial grounds of the Act have been expanded to include impairment (1988), family responsibilities, family status, age (1992), racial harassment (1992), gender reassignment (2000) and sexual orientation (2002). The EOC also conciliates complaints on the grounds of spent convictions (1988).

A number of offices oversee the implementation of the Act. The state's Equal Opportunity Commissioner implements community education and information programs to promote equal opportunity, as well as conciliating complaints of discrimination under the grounds and areas of public life set out in the Act. The State Administrative Tribunal (until 2005 the Equal Opportunity Tribunal) is responsible for determining cases of discrimination that are not settled by conciliation. The Office for Equal Employment Opportunity oversees the implementation of equal employment opportunity in all state government authorities, including local

government and tertiary institutions. The first Commissioner, June Williams, served until her retirement in 2000. Yvonne Henderson was appointed Commissioner in 2003.

In the twenty years of its operation the Equal Opportunity Commission has handled more than ten thousand complaints and conducted extensive community education and training in the public and private sectors and community organisations. It has also conducted investigations into discrimination in Aboriginal housing and in 2005 was undertaking a substantive equality program to eliminate racism in the provision of services in Western Australian government departments.

Western Australians are also entitled to seek remedy for discrimination under the laws of the Commonwealth, namely the *Racial Discrimination Act 1975*, *Sex Discrimination Act 1984*, *Human Rights and Equal Opportunity Commission Act 1986*, *Disability Discrimination Act 1992* and the *Age Discrimination Act 2004*. **Yvonne Henderson**

See also: Disability, intellectual; Disability movement; Female suffrage; Feminist movements; Gay and lesbian law reform; Women and political representation
Further reading: P. Crawford and J. Skene (eds), *Women and citizenship: suffrage centenary: Studies in WA History*, 19 (1999); C. Ronalds and R. Pepper, *Discrimination: law and practice* (2004)

Equestrian sports started in July 1829 with a race between horse-owning settlers at Sulphur Bay on Garden Island. The race was won by Mark Currie riding James Stirling's horse. In the 1800s equestrian sports were a favoured recreation owing to the role of the horse in transport, agriculture and everyday life. As a result of increasing mechanisation, the economic and social place of the horse began to decline in the twentieth century, particularly after the 1950s. In that period,

the horse's role changed from working animal to domestic pet and specialised recreation vehicle. In the 1890s and early twentieth century, metropolitan and country racing, hunting and polo clubs shared members, and the same horses were often used for each sport. After 1906 the breeding and quality of horses used especially for sport gradually improved. Following the Second World War, equestrian sports diversified, specialised and professionalised. Polocrosse started in 1949, and when interest in show-jumping and dressage intensified with the advent of the 1956 Melbourne Olympic Games, the WA branch of the Equestrian Federation of Australia (EFA) organised schools for competitors and instructors. The Pony Club Association formed in 1961, using the curriculum of the British Pony Club Movement to train young riders and, during the 1960s and 1970s, clubs spread throughout metropolitan and country Western Australia. Since then more shows and gymkhanas have been run to EFA rules which cover hacking, dressage, show-jumping and eventing. A state association for Riding for the Disabled started in 1973. In the 1980s the establishment of a Certificate in Equine Management by TAFE and the EFA's administration of the Australian Institute of Sports' National Coaching Accreditation Scheme replaced British qualifications; and riding clubs' breed societies received support from the Department of Youth, Sport and Recreation with the development of the State Equestrian Centre at Brigadoon. Over 2001–02 massive increases in insurance costs caused the closure of some riding schools and clubs. Despite relocating to the periphery of the metropolitan area as a result of urban development, horse sports still maintain a presence, not just in agricultural shows and the pastoral regions. **Marion Hercock**

See also: Horseracing; Horses, transport; Hunting; Polocrosse; Sport, disabled people; Trotting

Further reading: M. Hercock, 'A history of hunting with hounds in Western Australia', *Early days*, 11, 6 (2000); *Hoofbeats*: *Western Australia's equestrian magazine*; G. McLaren, *Lunatics, legends and lotharios: a history of showjumping in Western Australia* (2003)

Erosion is the natural process by which movement of wind and water breaks down the Earth's surface and carries away the resulting rock and soil fragments. Over thousands to millions of years, this process has shaped and continues to shape the Western Australian landscape, creating landmarks such as Wave Rock and the Pinnacles, and the ever-changing beach profiles. However, exacerbated by a decreased timescale as a result of human intervention and practices such as agriculture, erosion has become a serious environmental concern in Western Australia. Since European settlement, erosion rates have increased one-hundred-fold in the Western Australian Wheatbelt. Water erosion tends to occur in summer with monsoonal summer rains in the north and highly intense summer storms over poorly covered land in the south. Wind erosion affects dry, sparsely vegetated areas by lifting up loose, fine particles on the ground.

Soil erosion was discerned as a problem in Geraldton coastal districts as early as 1901. By the early 1920s repeated cultivation was strongly promoted by the Director of Agriculture. In the late 1920s the Agricultural Bank only gave credit for wheat seed to farmers who had left their land fallow for a year. Repeated cultivation of fallow land increased the risk of erosion and in 1929 the Department of Agriculture opened files on soil erosion. Following the first entry reporting erosion in the Wheatbelt in 1935, the Soil Erosion Committee was formed within the Department of Agriculture in 1936. S. L. Kessell, Department of Forestry, and L. J. H. Teakle, Department of Agriculture, documented soil erosion severity in 1940,

publishing data from 664 responses to a questionnaire in the *Journal of Agriculture*. Almost 69 per cent of farmers had observed wind erosion, from very slight to severe, and 54 per cent assessed the situation as increasing in severity. A similar proportion reported water erosion, 71 per cent assessing the severity to be increasing. Causes of erosion were listed as excessive clearing, overstocking, depredation by grasshoppers and rabbits, and over-cultivation. Wind erosion was noted to be more apparent during fallow periods. The paper advised the use of windbreaks, strip cropping, contour working and more selective cropping to combat wind erosion. Farmers sought solutions including tree belts and green fallows of oats and rye combined with light stocking. The *Soil Conservation Act* of 1945 put in place requirements for a permit and provision of three months' notice before clearing land. With a general belief that technology would solve all problems, the rate of land clearing increased in the 1950s and 1960s, against scientific advice.

Salinity and fire frequency are now also considered to be contributing factors towards erosion. Following severe wind erosion and dust storms in the 1980s, a Decade of Landcare was declared by Labor Prime Minister Hawke in 1989. In this scheme, land degradation was addressed by governments, individuals and communities. Programs to conserve remnant bushland, tree-planting for windbreaks and shelterbelts, and earthworks for erosion control were developed to help farmers combat erosion. Despite this, wind and water erosion continues to be a major and costly concern in WA. In agricultural landscapes, where 65 per cent of riverbank vegetation has been cleared, eroded sediment is washed into rivers, contributing to higher sediment loads and silting and carrying the nutrient-rich topsoil out to sea. Topsoil is now lost five hundred times faster than it is formed. It is estimated that two million hectares are affected by wind erosion and 0.75 million hectares by water erosion, together costing the state $21 million per annum.
Alisa Krasnostein

See also: Agriculture; Land clearing; Landcare; Marginal areas; Salinity; Wheatbelt
Further reading: A. Gaynor, 'Looking forward, looking back: toward an environmental history of salinity and erosion in the eastern wheatbelt of Western Australia', in A. Gaynor, M. Trinca and A. Haebich (eds), *Country: visions of land and people in Western Australia* (2002); Australian State of the Environment Committee, *Australia state of the environment 2001: independent report to the Commonwealth Minister for the Environment and Heritage* (2001); B. J. O'Brien, *Environment and science* (1979); M. E. White, *Listen—our land is crying: Australia's environment: problems and solutions* (1997)

Esperance The Shire of Esperance is located on Western Australia's south-east coast, about 725 kilometres from Perth. It has an area of 42,450 square kilometres and includes over 400 kilometres of coastline including the islands of the Recherche Archipelago. The Esperance area was part of the lands of the Wudjari tribe; its Aboriginal name is 'Gabba-Kyle' (also 'Gabbi-Kyley' or 'Gabba-Kyli'), meaning 'a place where water lies in the shape of a boomerang'. Mainland Aboriginal camps are recorded in the journals of a 1792 French scientific expedition along the coast and Esperance Bay takes its name from one of the ships in the exploration party, *L'Esperance*. From the 1820s the bay was visited by Tasmanian and American whaling and sealing vessels. Aboriginal people were used as a labour source and the sailors are also known to have forcibly taken Aboriginal women to their island camps.

Brothers C. E. A. and W. Dempster were the earliest European settlers in Esperance, arriving with their stock in the early 1860s.

The 1860s and 1870s brought other settlers and the pastoral industry expanded. Aboriginal men began to be employed as shepherds and stone and iron colonial homestead complexes such as William Moir's homestead (1873–80) were constructed. The growth of the region was slow, however, with only a small number of buildings: for example, a telegraph office and a lock-up, erected in the vicinity of the 1876 Dempster homestead by the 1890s. The discovery of gold in the Dundas and the Eastern Goldfields regions led to the rapid development of Esperance as a point of entry to the fields and the townsite was officially declared in 1893. Most of the historic buildings date from the 1890s–1910 gold-boom period and are in the Federation architectural style. These include commercial premises, residences, churches and public buildings.

In the first decade of the twentieth century, and not long after the gold boom, the region went into decline mainly due to economic recession and a weakening pastoral industry. With the exception of its role as a holiday spot for goldfields residents and the development of a salt industry, there was very little progress in the interwar period. A brief period of recovery after the Great Depression led to the erection of the 1935 harbour jetty.

After the Second World War, the most dramatic changes since the gold boom occurred, primarily due to the establishment of an agricultural research station in 1949 to investigate the farming capabilities of local soils. This resulted in the opening up of the coastal plain to settlement and farming. The region also became the focus of an agricultural scheme developed by an American syndicate led by Allen Chase. Although the 1956 scheme failed, together with the state's good terms for the conditional purchase of undeveloped land, it drew small farmers to the area. There was also an influx of Hollywood to Esperance with actors, producers and directors buying farming land. This was a bonanza for those able to manage the interests of absentee landlords while developing their own holdings with limited capital. Major investments were made by some of the United States' wealthiest families including the Rockefellers. Many people still associate Esperance with popular US television host Art Linkletter.

The opening up of the area to farming saw the population of the region increase, and as a result the town of Esperance itself expanded as part of its role as a regional centre. Many new buildings were constructed in Esperance, including a hospital, Shire offices and a shopping complex. Growing awareness of heritage also saw the restoration of historic buildings for new uses, such as the conversion of the 1896 hospital to a hotel in 1992. Today the region has a population of over 13,000 people and diverse industries such as agriculture, commercial fishing, shipping, wind farms and tourism. **Kristy Bizzaca**

See also: Aboriginal labour; Agriculture; Eastern Goldfields; French maritime exploration; Pastoralism; Sealing; Whaling
Further reading: R. Erickson, *The Dempsters* (1978); J. Rintoul, *Esperance yesterday and today* (1973)

Essays In the history of the essay in Western Australia, one figure, Walter Murdoch (1874–1970), towers above all others. Although Murdoch had already distinguished himself as a literary critic for the Melbourne *Argus*, it was only after he moved to WA in 1911 that he began (from mid 1923) to publish his hallmark essays on general topics in the daily newspaper, *The West Australian*. In the Preface to *Lucid Intervals* (1936), Murdoch defines an essay as a newspaper article reprinted in a book, suggesting that to be properly called an 'essay', a newspaper column needs to have some lasting interest outside its immediate context. Murdoch's articles achieved this status, along with national recognition, when published in a

series of books beginning with *Speaking Personally* (1930) and culminating in his *Collected Essays* (1938; expanded 1940). His interest in literature is always evident but is only one of many starting points from which he opens out into topics of broader interest. Born in Scotland but raised in Australia from the age of ten, Murdoch adopts the viewpoint of the ordinary Australian. Knighted in 1964, he wrote, at the end of his life, for the national newspaper the *Australian*, newly founded by his nephew Rupert. His fellow contributor to *The West Australian*, Henry James Lambert, who wrote as 'Scrutator', did not achieve Murdoch's national fame, but was popular enough in WA for a collection of his essays, *One Thing and Another*, to be published to raise funds for a charity in 1933.

A number of other Western Australian writers have produced collections of essays, but unlike Murdoch and Lambert they write as specialists on specialised topics and do not deal with the general-interest topics of the classic essay. Examples are Mervyn Austin's *An Ignorant Man Thinking* (1966), Alec King's *The Unprosaic Imagination: Essays and Lectures on the Study of Literature* (1975), Katharine Susannah Prichard's *Straight Left: Articles and Addresses on Politics, Literature and Women's Affairs* (1982), Fay Zwicky's *The Lyre in the Pawnshop: Essays on Literature and Survival* (1986) and Veronica Brady's *Caught in the Draught: On Contemporary Australian Culture and Society* (1994). Other specialised essays by writers like Peter Cowan, Dorothy Hewett, Elizabeth Jolley and John Kinsella have appeared in various newspapers and magazines, including *Westerly*. **Graham Tulloch**

See also: Journalism; Journals and magazines; Literary criticism; *West Australian*; *Westerly*
Further reading: B. Bennett et al., *Western Australian writing, a bibliography* (1990); J. La Nauze, *Walter Murdoch: A*

biographical memoir (1977); *AustLit: the resource for Australian Literature,* www.austlit.edu.au

Eucla, from the Aboriginal word 'Yinculyer' or 'Jerkala', was named by Lieutenant William E. Douglas when he surveyed the anchorage in 1867. The remote site was chosen as the meeting point of the Western Australian and South Australian sections of the East–West Telegraph Line, opened in 1877. A telegraph station was built on the sand dunes and pastoralists took up land in the district, despite an almost complete lack of surface water. In 1898 the Eucla townsite was surveyed around the telegraph station and substantial new stone telegraph buildings were constructed. The European population of Eucla reached around seventy at its peak, consisting almost entirely of the telegraph men and their families, while the district was also the home of the Jerkala-mirning people. In 1927 the East–West telegraph line was superseded by a line along the Trans-Australian railway route and the Eucla township was abandoned. The State Shipping Service continued to provide a service to Eucla jetty into the 1930s for pastoralists. During the Second World War the dirt track across the Nullarbor was upgraded, and from 1949 to 1962 a wayside house for travellers was conducted in one of the telegraph buildings. In the late 1950s several of the telegraph buildings were dismantled and the materials used in construction of the Eucla Pass Motel, which was located up on the scarp beside the road and completed in time for the Perth Empire and Commonwealth Games (1962). The telegraph station ruins, and the town's graveyard where pastoralist John Muir (1878) and three infants were buried, were left to the drifting sand dunes, while a stone obelisk erected at Eucla Pass in 1958 commemorates the men of the telegraph line. **Irene Sauman**

See also: Communications; Merchant shipping; Trans Australian Railway
Further reading: K. Dimer, *Elsewhere fine* (1989); G. P. Stevens, 'The east–west telegraph, 1875–7', in *Early Days*, 2, 13 (1933)

Eugenics was an international politico/ scientific racial doctrine that appealed to white people across the political spectrum and was important in Western Australia for the first forty years of the twentieth century. Premised on a conviction that the so-called 'white race' was degenerating and could no longer compete with other races, it prescribed two broad solutions: a positive eugenics to strengthen the white race through programs like child health centres, family planning and the provision of milk in schools; and a negative eugenics which involved eliminating those people regarded by eugenicists as weak and anti-social but also fecund and, therefore, a threat to the white race. For example, negative eugenics targeted people with intellectual disabilities (the so-called feeble-minded) for segregation, sterilisation or, sometimes, elimination. The creation of the State Psychology Clinic in 1928 offered eugenicists a tool to pursue their programs by enabling it to identify the 'feeble-minded' more scientifically. But, because compulsory sterilisation had little support in WA, the Mental Deficiency Bill of 1929 was rejected by state parliament and the State Psychology Clinic was closed after only three years. Negative eugenics also appeared in the policies of A. O. Neville, the Chief Protector of Aborigines, who believed that a eugenics program of 'breeding out' of Aboriginal 'blood' was desirable. He was a strong advocate for changes based on eugenics principles to the 1905 *Aborigines Act*. These were eventually incorporated in the 1936 *Native Administration Act.*

Eugenics faded after the Second World War when the German Nazi euthanasia program and the Holocaust were exposed; it has, however, been revived recently. Sociobiological doctrines, inspired in part by the Human Genome Project, have foreshadowed for some the possibility of eliminating antisocial behaviour and creating intelligence. At the same time, for some bio-ethicists and others, prenatal screening and legal abortions have made possible the elimination of foetuses with disabilities. Whereas the first generation of eugenics roused little opposition, modern eugenics has encountered vigorous protests from people with disabilities, their advocates, and church and political groups, all of whom support diversity and difference and oppose social engineering based on eugenics.
Charlie Fox

See also: Aboriginal administration; Aboriginal health; Disability, intellectual
Further reading: M. Fitzpatrick, '"Preventing the Unfit from Breeding": the Mental Deficiency Bill in Western Australia, 1929', in P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); P. Jacobs, *Mister Neville: a biography* (1990); R. Watts, 'Beyond Nature and Nurture: Eugenics in Twentieth Century Australian History', *Australian Journal of Politics and History*, 40, 3 (1994)

Euthanasia is defined as painless death, or the putting to death of a person, especially one suffering from an incurable and painful disease, painlessly.

Western Australian statutory law specifically proscribes 'any act or omission which hastens the death of another person' (section 273 of the *Criminal Code of WA*, 1913). Under common law, however, any medical treatment delivered without the consent of a patient may be considered a trespass against that person. Thus patients have the right to refuse treatment, but they are often unaware or unable to exercise this right.

In order to resolve some of these contradictions, Jocelyn Tunbridge and Lilian

Rubena Bull called a meeting in March 1980 to discuss the need to legalise voluntary euthanasia in WA. The meeting, attended by some thirty people, resolved to form the West Australian Voluntary Euthanasia Society (WAVES) as part of a worldwide movement to change existing laws. WAVES, which currently numbers some eight hundred people, has since continued to influence public opinion and lobby politicians to bring about legislative change. The society has, for example, compiled Advance Health Directives ('living wills'), which allow the signatory to request a death free from attempts to prolong life by artificial means (passive euthanasia), and also promotes active euthanasia, i.e. the inducement of death as rapidly as possible by direct means. Such techniques leave those involved in danger of being charged with murder under section 273 of the *Criminal Code of WA*.

Since 1995 there have been a few unsuccessful attempts to legalise passive euthanasia with bills introduced by both major parties and in 2003 by Robin Chapple (Greens). Church affiliations and small but vociferous 'Right to Life' groups present strong opposition, though community attitudes measured by a Roy Morgan poll in 1996 suggest more positive attitudes to euthanasia.

In June 2006 an Acts Amendment (Advance Health Care Planning) Bill was introduced into state parliament which proposed the legalisation of Advance Health Directives and amendment to the *Criminal Code* to protect health professionals involved in actions dictated by Health Directives. If passed this legislation would reinforce the common law position but would not represent acceptance of voluntary euthanasia.
Dorothy Parker

See also: Death; Palliative care
Further reading: B. McNamara, *Fragile lives: death, dying and care* (2001); R. R. White (ed.), *The Case for voluntary euthanasia* (1985)

Exmouth, the traditional land of the Thalanyji people, is located on the North West Cape, 1,272 kilometres north of Perth. Dutch Captain Jacobz of the *Mauritius* landed in 1618 and Exmouth Gulf was named in 1818 by Philip Parker King to honour British Admiral 1st Viscount Exmouth. The shire extends over 6,261 square kilometres, including pastoral properties dependent on spinifex and artesian water. The town was officially opened on 16 September 1967 as a support town for the US Naval Communications Base. During winter the advent of caravans almost doubles the permanent population of 2,400. Local industries include pearling, pastoral enterprises, commercial and recreational fishing, prawn processing, aquaculture and tourism. Since the WAPET Rough No. 1 oil strike in 1953, on- and offshore oil explorations have been ongoing.

A place of delight and danger, Exmouth's most attractive features are spectacular limestone gorges with over four hundred caves as well as flowers and wildlife in the Cape Range National Park, and unique coral reef with abundant species of fish in the Ningaloo Marine Park. Exmouth Shire and the Department of Conservation and Land Management collaborate in fostering scientific research at the Milyering Visitor Centre and Jurabi Turtle Centre. The region is historically vulnerable to tropical cyclones, a devastating example being Vance in March 1999. Vlamingh Head Lighthouse (1912) is a grim reminder of thirty-six known wrecks. Conversely, the area is a haven for swimmers, snorkellers, divers and birdwatchers, and there are seventeen discrete beaches along the coast, some with camping facilities. Construction of a Marina Village at Exmouth is well advanced, and the Piyarli Yardi Aboriginal Heritage Centre building was completed in 2005.

During the Second World War a strategic submarine and air base was established at the North West Cape to support 'Operation Potshot', and also operations Jaywick and Rimau after an attack by Japanese aircraft on 20 June

1943. Learmonth airstrip, constructed for the Australian Army, RAAF and US Navy, was upgraded in 1999 as Exmouth International Airport. The Naval Communication Station Harold E. Holt has undergone several administrative changes over the years; the US Navy leaving the base in 1992 after twenty-five years, and the RAN leaving in 2002 when management was taken over by Boeing Australia. Situated on the southern dunes, the Learmonth Solar Observatory is part of a worldwide network monitoring the sun, and is jointly operated by the Commonwealth government's IPS Radio and Space Service and the US Air Force. **Wendy Birman**

See also: Cyclones; Fishing, commercial; Fishing, recreational; Lighthouses; Marine environment; Oil and gas; Second World War

Further reading: M. E. Fenton, *The Exmouth radar story: 310RS, 31RS, 161RS, 155RS* (1994); E. N. McNabb, *Pot Shot profile 1942/46: story, Aust. Navy, Army, RAAF & US Navy* (1995)

Exotic fauna Defining exotic species of animals is not straightforward. It could reasonably be argued that any animal species that was not present on the Australian landmass as it separated from the Gondwanan supercontinent some 35 million years ago is exotic. Under this definition, subsequent colonisation from South-East Asia by rodents (5 million years ago) and humans (60,000 years ago) would make these species exotics. The more conventional perspective of exotic fauna restricts the concept to those animal species that have been introduced by Europeans during the past 180 years. It is convenient to recognise eight categories.

Feral animals are domestic (usually vertebrate) animals that became wild once they strayed from areas in Western Australia occupied by humans and established populations independent of any further provision of

resources by humans. Acclimatised animals are 'useful' animal species (such as trout species), which are now established in the wild as a result of active liberation in WA by the government. Pest and nuisance animals are species (usually invertebrates such as millipedes, snails and termites) that either directly annoy humans or affect resources of value to humans. However, not all pest animals are exotic. Some feral animals, such as cats, are pests. Companion animals include pets (dogs, cats, monkeys) or caged birds (canaries, cockatoo species from the eastern states). Not all companion animals are exotic.

Some exotic animals were introduced accidentally. An example of a useful species is the British earthworm that now occurs widely in south-west WA in gardens and pastures. These were probably first introduced when potted fruit trees were brought by the first settlers. Rodents (ship rats and house mice) are an example of noxious species that were also accidentally introduced at this time, though they may have also arrived in the 1600s from Dutch shipwrecks.

Familiar exotic animals were purposely brought from Britain by settlers to provide food (livestock, poultry, pigeons, rabbits and honeybees), to produce commodities such as wool and leather, and to transport people and products (bullocks, horses, donkeys, camels). Some exotic animals were intended to provide amusement: for example, animals in travelling circuses and menageries. The tiger, panther, elephant, gazelle and peccary were first seen in WA with the visit of Fryer's Circus in 1886. Subsequent arrivals were the baboon (1887), bear (1896) and lion (1897). These and other animal species had a longer-standing presence following the establishment of a zoo in 1897.

Some exotic animals present in WA are self-introduced. Rabbits and foxes were introduced into Victoria from Britain more than 130 years ago. They reached WA from South Australia in 1894 and 1912 respectively, and by 1930 had occupied all of the subtropical

parts of the state. Millions of dollars have been expended in the control of rabbits since 1902, by means of construction of netted fences, poisoning of water, distribution of poison baits, trapping, fumigation and destruction of warrens, removal of above-ground shelter, and the introduction of myxoma virus and rabbit calicivirus. Large sums of money have also been spent controlling foxes, with a bonus scalp system operating from 1928 to 1958. Since 1994, poison baits have been distributed widely across public lands in south-west WA to foster the conservation of marsupials that would otherwise be eaten by foxes. In recent years coordinated baiting and shooting of foxes has taken place on farmland between Geraldton and Albany. **Ian Abbott**

See also: Acclimatisation; Environment; Exotic plants and weeds; Feral animals; Pests; Rabbit-proof fence; State barrier (emu and vermin) fence; Zoological gardens

Exotic plants and weeds There were 1,184 species of exotic plants (plants originating in a foreign country) recorded in 2005 as naturalised (reproducing unaided by humans) weeds in Western Australia. These comprise eight ferns, fourteen conifers and 1,162 flowering plants. The largest groups or families are grasses (196 species), daisies (115 species), peas (106 species) and irises (53 species). Most weeds are pests of agriculture, gardens or wasteland. However, 677 species (55 per cent) have invaded bushland and are listed as environmental weeds. Major effects of weeds are loss of biodiversity and lower crop yields.

Exotic plants were introduced after European settlement began in WA in 1826. Generally all pre-European plants are considered to be native, but there are a few exceptions, such as tamarinds (*Tamarindus indica*) introduced by Macassan traders from Indonesia, and some other plants that may have been introduced by other early visitors. Settlers brought seeds and plants for their

farms and gardens and feed for animals, both of which contained weeds.

Weeds naturalised slowly, until broad-scale clearing after the Second World War and grazing changed the balance in favour of the weeds. The impact of weeds on agricultural production (in 2005 estimated at $3 billion per annum), loss of natural areas, and their fragmentation, which leads to greater weed invasion, have led to changing public perception of weeds. The 1997 National Weed Strategy for Australia begins with the statement: 'Weeds are amongst the most serious threat to Australia's primary production and natural environment'.

Weeds have become established at an increasing rate. Air travel, increasing affluence, changing gardens and a better water supply mean the range of plants introduced continually increases. Groves et al. have estimated that during 1971–95, exotics were naturalising in Australia at a rate of 20 to 25 species per year and show no signs of slowing. Many of these weeds are plants currently in our gardens; Perth gardens grow over 2,500 species and these are a reservoir of future weeds. Weeds are in a constant state of flux, ranging from deliberately cultivated, through to those restricted in area as they first escape cultivation (many become extinct at this stage), to widespread in agriculture and bushland.

WA is a continent-sized state. Each major climatic zone, the tropics (Kimberley), the desert and the temperate south-west region, has its own weed flora. The Kimberley region has 108 species of weed, of which 95 occur in bushland, the rest being crop weeds largely in the Ord irrigation area. These weeds are largely from tropical Asia and South America, though their means of introduction into the Kimberley is poorly documented. The deserts of WA are largely undisturbed and support few weeds. Most were introduced as fodder contaminants, ornamentals and fodder crops. There are few weeds in the central deserts, most occurring in the south and west of the

region and in settlements and mines in the goldfields. Weeds of the deserts are mostly from the Americas, Africa and central Asia. In temperate areas there are over nine hundred weeds, most of these coming from Europe, North Africa and Western Asia (Mediterranean climate areas) and Southern Africa. Most were deliberately introduced as ornamentals or fodder crops, but some were ballast or fodder contaminants. Since this region contains the most alienated lands and population, and has a long history of multiple introductions of potential weeds, it has the greatest number of weeds. The 'weediest' areas are correlated with high levels of clearing in the towns, Wheatbelt and on the Swan Coastal Plain. Details of most of the state's major weeds (for example, Paterson's Curse, Tamarisk, Cape Tulip), their introduction, effects and control, can be found in Parsons and Cuthbertson. **Greg Keighery**

See also: Botany; Environment; Exotic fauna; Pests; Wheatbelt

Further reading: I. R. Dixon and G. J. Keighery, 'Weeds and their Control', in M. Scheltema and J. Harris (eds), *Managing Perth's bushlands: Perth's bushlands and how to manage them* (1995); R. H. Groves and J. R. Hosking, *Recent incursions of weeds to Australia 1971–1995* (1997); B. M. J. Hussey, G. J. Keighery, R. D. Cousens, J. Dodd and S. G. Lloyd, *Western weeds: a guide to the weeds of Western Australia* (1997); W. T. Parsons and E. G. Cuthbertson, *Noxious weeds of Australia* (1992)

Exploration, Aboriginal roles Since 1827 the roles of Aborigines in the exploration of the land and its resources have been as varied as the individual people and social groups who worked with and for European explorers.

In the early years of settlement at King George Sound, Mokare stands out for his enquiring mind and enthusiasm to show and educate the Europeans about his country. This cooperation with explorers continued in the 1830s at Swan River and resulted in the documentation of the local names for plants, animals, places and stars. Some newcomers to Western Australia were also keen to learn bushcraft from Indigenous people.

However, when the explorers expanded the frontier of known country beyond the South-West, Nyoongar guides such as Migo, who had been with J. S. Roe in 1835, and later with the men of the *Beagle* after 1837, and Kaiber with George Grey in 1839, were also in unknown country, and unable to explain the terrain or interpret other languages. Despite their courage, the role of Aborigines in exploration declined after the 1840s, though exploration groups may have used police trackers as guides. In the 1870s, however, Charley (of unknown origin) accompanied Peter Egerton-Warburton's expedition (1873–74) from Alice Springs to the De Grey River; and two Nyoongar men, Tommy Windich and Tommy Pierre, were on the major expeditions undertaken by John and Alexander Forrest (1869–71) in central and northern WA. Although in alien country, these men used their bush skills to maintain the lives of their European companions. The

Group photograph of James Sweeney, James Kennedy, Tommy Windich, Tommy Pierre, Alexander Forrest and John Forrest, 1870. Courtesy West Australian *(HIST4898)*

importance of the exploration role played by Aboriginal people is reflected in the features named after them by the surveyors with whom they travelled: for example, Wylie Scarp, Mount Narryer, Mount Dugel and Pierre Springs.

During the 1906–10 survey and construction of the stock route from Wiluna to Sturt Creek in the south Kimberley, Aboriginal guides located soaks and native wells in the Little Sandy, Gibson and Great Sandy Deserts. Only the local people knew the location of the wells that were situated on ancient watercourses, long since covered over with sand. As with Carnegie's explorations of 1896, some coercion and restraints were undoubtedly used. Nevertheless, some strong personal bonds were formed and some individuals were rewarded, but this was the exception rather than the rule. **Marion Hercock**

See also: Aboriginal trackers; Exploration, land

Further reading: G. McLaren, *Beyond Leichhardt: bushcraft and the exploration of Australia* (1996); Joanne Shoobert (ed.), *Western Australian exploration*, 1 (2005); E. Smith, *The beckoning West: the story of H. S. Trotman and the Canning stock route* (1985); H. W. Wilson, *Bushman born* (1981)

Exploration journals and diaries The record of expeditions of exploration around and within Western Australia is more than a reflection of the course of European discovery and the search for resources. The record encompasses all the published and unpublished diaries, letters, journals, maps, charts, reports and other personal and official texts concerning marine and terrestrial exploration on the western third of the Australian continent since first contact by non-Aboriginal peoples.

The writers of official exploration reports were mainly professional men such as military officers, hydrographers, surveyors and government officials. Other people writing about their explorations were settlers—mostly, but not solely, men. British writers dominate the early record of exploration, which includes the occasional Aborigine, and continental Europeans in the pre-settlement era. After the 1850s, Australian-born Europeans are prominent. This latter group of explorers differs in perspective from the British of the early nineteenth century, as they were interpreting landscapes with which they were increasingly familiar. The reports of professional surveyors like the Gregory brothers are objective and analytical, whereas the earlier writings of the Bussell family of settlers and George Fletcher Moore include their personal feelings and reactions to the landscapes and people. Despite the years separating the explorations of Stirling and the colonial-bred Forrest brothers, their reports reflect political astuteness and commercial flair, as they were aware that speculators would read their work.

Exploration records show the environment and people at first contact, and contain detailed descriptions of topography, geology, vegetation, plants and animals, and physical phenomena such as weather. These texts also document the first meetings and the cooperation between the Aboriginal population and the explorers.

The exploration record traces discoveries of and shows the spatial spread of economic development in the state. The record also reflects the course of local scientific research and places this work into a global context. In this manner, the texts show the development of the professional disciplines of surveying, planning, geology, geography, botany, zoology, anthropology and archaeology in WA.

Each explorer's text is a 'snapshot' of the environment at a particular time and place and serves as a benchmark or base line for analyses of environmental change and comparisons with modern conditions. The record

includes the initial collection of specimens and the documentation of botanical, zoological, geological, ethnographic and climatic information. Of particular interest today are the accounts of the presence and distribution of plants and animals, and the patterning of vegetation, wetlands and other habitats before the major environmental changes rendered by development and the introduction of livestock and exotic plants.

The exploration record contains the origins of numerous place names and, in many instances, the only accounts of Aboriginal names. Even when the Lands and Surveys Department surveyors gave a topographical feature a new name, the Aboriginal name was usually noted. The diaries and reports of the state's first surveyor-general, John Septimus Roe, are essential reading in this regard. Likewise, the explorers' descriptions of Aboriginal customs, foods and artifacts, and their accounts of the presence and distribution of Aboriginal peoples, have ethnographic and legal value. In this and other areas, the exploration record is part of our body of knowledge about our environment, society, and natural phenomena and events.

The published material from the exploration record is readily accessible, and the books by explorers such as George Grey, Augustus and Francis Gregory, John Forrest and Ernest Giles have a wide circulation. Original unpublished material is held in repositories and libraries all over the world and in WA. Here, the State Records Office holds the archives of the Lands and Surveys Department, and some private papers are held in the Battye Library. **Marion Hercock**

See also: Battye Library; Colonial writing; Exploration, land; Historical records; Royal Western Australian Historical Society; State Records Office
Further reading: B. d'Entrecasteaux, trans. E. Duyker and M. Duyker, *Bruny d'Entrecasteaux: voyage to Australia & the Pacific, 1791–1793* (2001); A. C. Gregory and F. T. Gregory, *Journals of Australian explorations* (2002); G. Grey, *Journals of two expeditions of discovery in North-west and Western Australia, during the years 1837, 38 and 39* (1983); J. Shoobert (ed.), *Western Australian exploration*, 1 (2005)

Exploration, land Exploration of Western Australia by European settlers occurred in four phases. The first occurred in 1829–30 when pioneers realised that the extent of fertile agricultural land around the Swan and Canning rivers was less than they had been led to expect. Lieutenant-Governor Stirling had been instructed to give priority to exploring land between Swan River and King George Sound, and although settlements were soon established at Vasse and Augusta, by mid 1830 settlers were more interested in what lay eastwards over the Darling Range. Ensign Robert Dale's discovery of fertile land in the Avon Valley during two journeys in 1830 opened up the York/Toodyay area for settlement. Then Thomas Bannister's long journey from the Swan River to King George Sound in 1830–31 was made not only to establish a line of communication between the settlements, but also to confirm T. B. Wilson's report that good agricultural land had been discovered north-west of the Sound. However, with near cessation of immigration after 1831, further exploration was officially discouraged.

Exploration was re-activated in 1834, and during the next three years the southwest and eastern Wheatbelt regions were discovered. In 1835 John Septimus Roe and the Lieutenant-Governor journeyed south, close to present-day Williams and Katanning to Albany, and in 1836 Roe covered a huge area eastwards to present-day Merredin. In the same year, A. Hillman made a triangular journey from Armadale to Williams and Pinjarra. Although the reports of these and other explorers implied that the land discovered was more suitable for pastoral

than agricultural purposes, many settlers still held hopes that the inland might contain a mountain range, wide rivers and fertile plains. But the further east the explorers travelled, the drier the land became and the sparser the vegetation.

The third phase (1838–70) was inspired by settlers who believed that the Kimberley and North-West held promise of spectacular discoveries. Captain G. Grey's journey in 1838 from Hanover Bay to the Prince Regent River rekindled hopes that sugar, cotton and rice could be grown there. Grey's next journey from Shark Bay to Perth was of special importance for it revealed large tracts of land '…suitable for mineral, agricultural and pastoral purposes'. In 1858 F. T. Gregory drew attention to pastoral land north of the Murchison, and in 1861 he discovered the Ashburton, Yule, De Grey and Oakover rivers. Indeed, his report became a handbook for pastoralists who settled in the North-West.

The fourth, and in many ways the most difficult, explorations were those to the inland arid regions. In 1872 Ernest Giles tried, on horseback, to penetrate the Murchison from Charlotte Waters (Queensland), and in 1873 to cross the Gibson Desert, but lack of food and the hostility of Aborigines drove him back. Two years later, P. Egerton-Warburton,

using camels, succeeded in travelling from Alice Springs to the Indian Ocean near Roebourne, and in 1874 John Forrest completed an important journey from Geraldton to Adelaide. Soon after, the persistent Giles, this time using camels not horses, crossed the colony from east to west, and then, remarkably, returned eastwards on a more northerly route. The Giles and Forrest journeys virtually confirmed that most of inland WA was unfit for settlement.

Gold discovery in the Yilgarn during the 1890s saw a new generation of explorers travelling in a south–north direction seeking new gold-bearing country. These included Lawrence Wells (1896) from Mullewa to Murchison, and David Carnegie (1897) in a thirteen-month journey from Coolgardie to Halls Creek and back. Then, in 1898–1900, F. H. Hann discovered new pastoral land in the Kimberley region. Thus, by the beginning of the twentieth century, the main contours, though not the extent of minerals, in the vast state had been revealed. **Reginald Appleyard**

See also: Agriculture; Exploration, Aboriginal roles; Gold; Pastoralism
Further reading: J. Cameron, *Ambition's fire: the agricultural colonization of pre-convict Western Australia* (1981)

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Fairbridge Farm The Fairbridge child migrants farm school near Pinjarra was the first of seven Fairbridge schools around the world. As the only school established and managed personally by Kingsley Fairbridge (1885–1924) and his wife Ruby, it was the prototype for the others in North America, Africa, and eastern Australia. It is the only Fairbridge Farm School anywhere in the world whose landscape and buildings still survive largely intact into the twenty-first century, and thus is of high national and international heritage significance.

The first site nearer the town of Pinjarra soon proved too small and after several years the school moved to its present location in 1920. Children considered to have poor prospects in England were trained for Australian rural work. The tendency for abuses associated with some orphanages and child migration schemes was minimised at Fairbridge Pinjarra by the presence of both male and female staff and students, and a cottage residential system with 'house parents' instead of larger institutional dormitories. Soon after Kingsley's death, his widow Ruby returned to England and the farm school was managed by locally recruited headmasters and staff.

The property was owned by the London-based Child Migration Society, whose chairman during the 1920s was Sir Arthur Lawley. Lawley had been Governor of WA (1901–02), and who later inherited the title Baron Wenlock. Most of the buildings are by Perth architects, but the chapel (1928–32), in a late Arts and Crafts style, is Australia's only work by leading English architect Sir Herbert Baker, who had worked in many parts of the British Empire. Baker's most famous buildings include the Bank of England in London, and the Parliament of India in New Delhi. Baker donated his design work for the Fairbridge chapel because of his enthusiasm for the work of Kingsley Fairbridge. A more modern and simplified version of his style developed in the Transvaal; it is adapted to local climate and materials and is arguably the culmination of his ecclesiastical work.

After the Second World War, as organised child migration wound down in response to changes in UK laws, Fairbridge changed its priorities to provide temporary accommodation for migrant families. In the 1960s the Fairbridge organisation moved into the provision of scholarships for English youth to attend university in Australia, including at The University of Western Australia.

With the farm school no longer operational, the London-based Child Migration Society sold the property to Alcoa Australia. After a period of uncertainty it was leased in the 1990s to local charitable group Fairbridge WA Incorporated. Buildings have been conserved, and the cottages, with names such as Clive, Shakespeare, Nightingale, Exeter, Raleigh and Hudson, still retain their imperial flavour. The site is now used for educational and community activities focused on youth, heritage and environment. Programs include horseriding for the disabled, exploration of sustainable energy use and farming, training disadvantaged youth in heritage conservation trades, the annual Fairbridge festival of music, and Montessori education. **David Dolan**

See also: Child migration; Children; Orphanages

Further reading: D. Dolan and C. Lewis, *The Fairbridge Chapel: Sir Herbert Baker's labour of love* (2004); G. Sherington and C. Jeffery, *Fairbridge: empire and child migration* (1998)

Fashion industry Western Australia's designer fashion industry developed in the postwar era, through the establishment of two well-known, though small, couturiers. Odet Prentice's salon Jean Jean was known for made-to-measure wear and couture that she created from imported Parisian fabrics, and, later, Neil Hunsley was thought of as the best dressmaker in Perth during the fifties and sixties. Consumer interest had increased with the establishment of retail outlets for designer fashion, including Shirley's Frock Salon in Devon House, Hay Street, Perth (later in Nedlands), in the late 1930s, and Corot's of Hay Street, which opened in the late 1940s in competition with Aherns Model Show Room.

Fashion drawing had been undertaken at Perth Technical College since the First World War. In 1969 a Diploma of Fashion Design was introduced. When WAIT (later Curtin University) was established, the course was transferred there, but in 1990 it returned to the technical college, by then rebadged as Central TAFE.

The industry began to grow in the mid sixties. Anne Dreske Somoff's leather label Dreske Somoff had considerable success nationally and in Paris from the 1960s to 1980s. The House of Tarvydas on Hay St was created by designer Ruth Tarvydas, garnering success as one of Perth's trendiest boutiques and entering international fashion shows from the late seventies. Wendy Marshall opened Elle Boutique*,* a retail boutique that continues to stock both imported and local designers. The seventies also saw the emergence of Liz Davenport's fashion boutiques for professional women, which can now be found across Australia, and in London and Paris; and award-winning designer Nanette Carnachan's Mid 70s Boutiques.

As fashion became increasingly influenced by popular culture and fine art, labels such as Rebecca Paterson's Neurotic emerged in the early eighties, blending elements of fine art and politics with fashion. Commercially, the growth of stores such as Bliss and department store Aherns allowed young local designers to display their collections. Since the 1980s, King Street has emerged as a fashion precinct with a strong local designer presence.

The move from couture was offset in the late 1980s by the rise of designers such as Robert Pierucci, Silvia Car and Ray Costarella; and in the late 1990s by Kristy Lawrence and Kathryn Mudie of Empire Rose. Megan Salmon, Michelle Jank and Jade Rubino, who create unique, alternative, art-based items, have been successful in Perth and overseas.

WA designers participated in National Fashion Awards (now the Mercedes Australian Fashion Week) from the 1960s, with labels such as Tish and Jane winning the Cruise Co-Ordinates in the 1970s. During the seventies and early eighties the Channel 7 Young Designers Award also had considerable impact on the industry, and WA designers participated in the Moora Wool Awards in the 1980s. In 1998 Anne Farren was awarded the International Lace for Fashion Award in Sydney for her silk cloth and lace creations. The past decade has also seen events such as StyleAID and Perth Fashion Week provide a showcase for WA designers. **Anna Kesson**

See also: Retailing; Textiles, clothing and footwear

Further reading: D. Erickson (ed.), *Art & design in Western Australia: Perth Technical College, 1900–2000* (2000); Premier's Fashion Industry Taskforce, *The Premier's Fashion Industry Taskforce report* (2003)

Federal movement The initiative of Premier Sir John Forrest and the passion of goldfields federalists overwhelmed isolationists to bring Western Australia into the Commonwealth of Australia as an original state on 1 January 1901.

Federation had appeared an unlikely threat to the sovereignty of early 1890s WA. Isolation, virtual independence, close kinship, economic and emotional ties to Britain, self-confidence born of gold rush prosperity and Pax Britannica confirmed for many a commitment to autonomy. There seemed no economic, social or political reason to attach to distant Australian colonies.

The strongest autonomists—conservatives, old settlers and 'Sandgroper' farmers of the South-West—constituted the core of Forrest's political support. They controlled parliament throughout the 1890s and trusted the premier to keep the West independent. However, Forrest had federalist sympathies and involved WA in the wider federal movement, sending delegates to the inter-colonial conventions of 1891 and 1897–98, which framed a national constitution. To soothe anti-federalists, he rationalised that participation did not imply commitment; a decision to federate could come later.

Forrest spoke for WA interests at the conventions but was unable to obtain the strongly states' rights constitution he wanted. Nor did he find a long-term solution to his colony's impending fiscal problem: it would lose one-third of colonial revenue with the transfer of customs and excise to the Commonwealth. Forrest eschewed special concessions for WA, lest it appear a mendicant, yet he reluctantly accepted the retention of local customs duties for five years.

Despite deficiencies in the draft constitution, Forrest announced his wholehearted support of Federation in May 1898. The hostility this raised in his supporters forced him to back-pedal, and apart from belatedly seeking constitutional concessions for his colony to appease anti-federalists, he had to watch political leadership of the federal movement pass to others.

Led by George Leake and Walter James, the Federal League campaigned in Perth and Fremantle for the draft constitution to be referred to a referendum, as it had in all other Australian colonies. When parliament decided against this in December 1899, a backlash erupted on the goldfields, where the Australian nationalism of the largely 't'othersider' population was reinforced by economic grievances. Federalists organised the Eastern Goldfields Reform League and, guided by Kalgoorlie newspaperman John Kirwan, launched the Separation for Federation Movement, threatening to take the Eastern Goldfields into the Federation unilaterally. This politicking made Federation a live issue and aroused passions against the Forrest government intended to force parliament to refer Federation to the people.

The non-Aboriginal population of WA had quadrupled in the 1890s gold rush to 184,000 in 1901, mainly with men drawn from the eastern Australian colonies. These 't'othersiders' were overwhelmingly federationists and opposed to Forrest's apparently anti-federal policies. Facing nascent Australian nationalism and rising federal support in the Perth metropolitan area and Albany, as well as the goldfields, and daunted, it seemed, by the prospect of fighting a divisive colonial election in 1901 outside the Federation,

Declaration for the Federation Poll outside the West Australian Record Board, 31 July 1900. Courtesy West Australian *(HIST1220)*

legislators agreed in June 1900 to a referendum on Federation. The national constitution was endorsed overwhelmingly on 31 July by 44,800 votes to 19,691 and WA duly joined the Australian Commonwealth. **Lyall Hunt**

See also: Cinderella state; Commonwealth, relations with; Eastern Goldfields Reform League; Isolation; Newspapers, Goldfields; Politics and government; Secession
Further reading: G. Bolton, 'The greatest miracle of all: Western Australia joins the Federation', *Early days,* 11, 6 (2000); F. K. Crowley, *Big John Forrest 1847–1918* (2000); B. K. de Garis, 'Western Australia', in H. Irving (ed.), *The centenary companion to Australian Federation* (1999); L. Hunt (ed.), *Towards federation: why Western Australia joined the Australian Federation in 1901* (2000)

Federal politicians When Western Australia joined the Commonwealth of Australia on 1 January 1901 as an original state, like Tasmania it was allocated five seats in the 75-member House of Representatives in accordance with section 24 of the Constitution. This number remained unchanged until the House was expanded to 121 full voting members in time for the 1949 federal election, by which time the state, with 6.6 per cent of the nation's population, was granted its numerical entitlement of eight seats, along with ten senators in place of the six provided for initially in the Constitution. In 2007 WA, with approximately 10 per cent of Australia's population, elected fifteen members in the 150-member House of Representatives and twelve Senators in the 76-member upper House.

In the first federal election, held on 29 and 30 March 1901, the newly formed Labor Party won two of the six Senate seats and two—Perth and Coolgardie—of the five House seats, with two of the others—Kalgoorlie and Fremantle—going to Free Trade candidates, as did the remaining four Senate

seats. The remaining lower house seat, Swan, was won unopposed by John Forrest, who stood as a Protectionist, having transferred to federal politics after eleven years as Premier and MLA for Bunbury. By 1906 all four of the original Free Trade Senators had lost their seats, and two of the original five MHRs from the West lasted only one term: in December 1903 Elias Solomon lost Fremantle to Labor's W. H. Carpenter, who in turn was defeated in 1906 and was subsequently state MLA for Fremantle from 1911 to 1917; while Sir John Kirwan lost Kalgoorlie to Labor's Charles Frazer. Kirwan, the editor of the *Kalgoorlie Miner*, owed his victory in 1901 to his prominent role in the Separation for Federation campaign, but Labor's growth in the goldfields cost him the seat in 1903. As an Independent, Kirwan subsequently sat in the state's Legislative Council from 1908 to 1946, for the last twenty years as its president.

Labor's success in winning four of the five WA seats in 1903 was symptomatic of its growing strength, which saw the formation of the short-lived minority Watson Labor government in 1904. Despite the loss of Fremantle at the 1906 election it still had three WA MHRs when Andrew Fisher formed his 1908–09 government. A year later the government fell and the Fusion of the Free Traders and Protectionists led to a straight two-party contest in 1910, which Labor won convincingly. By this time the party held all six Senate places from the West, but the defection to the Fusionists by Perth MHR J. M. Fowler in 1909 left it with only two House WA seats, both for the goldfields.

The most important politician to emerge from the West in the first decade and a half of federal politics was undoubtedly John Forrest, who held ministerial posts in the first Barton and Deakin governments, and then from 1905 until his retirement in 1918 was in every non-Labor ministry, serving as treasurer successively under Deakin, Cook and Hughes. Indeed, in the aftermath of the 1913 election

he came within one vote of becoming Liberal leader and hence Prime Minister.

Of the early Labor MPs, the two most prominent were Hugh Mahon and Senator George Pearce. Mahon, a political activist and journalist, migrated from Ireland to the Western Australian goldfields. He was a cabinet minister in the first Labor government in 1904 and again under Andrew Fisher in 1908 to 1909, but lost his ministerial place to Charles Frazer after the 1910 election and then his parliamentary seat in the 1913 election due to a redistribution. Following Frazer's death Mahon was returned at a by-election for Kalgoorlie and served again in the Fisher government in 1914 and 1915, then lost his seat in 1917 following the conscription split, but was re-elected in 1919. A year later he became the first and only federal MP expelled from the chamber as a consequence of 'seditious and disloyal utterances' concerning the Irish national movement.

Pearce's career was even longer and extraordinarily successful. He sat continuously in the Senate for more than thirty-seven years and held major portfolios such as Defence and External Affairs in both Labor and non-Labor governments. His first ministerial post was in 1908, and from 1914 to 1921 he was Minister for Defence, first in Labor and then in non-Labor governments following the conscription split, and again from 1932 to 1934. For much of the 1920s and from 1934 and 1936 he was Territories Minister and also Minister for External Affairs in the last term before his defeat in the 1937 Senate election.

By 1917 Labor had lost all but one of its Western Australian Senators by defection to the National Party. Its remaining WA Senator, Edward Needham, a former state MP, was defeated in the 1919 election but served another term in the Senate between 1923 and 1929 before returning to state parliament. Meanwhile, in 1914 the Country Party had made its debut in Western Australian state politics, and at its first federal election

in 1919 won its first House seat when John Prowse, aided by the new preferential voting system, regained Forrest's old seat, which Labor had won at the 1918 by-election. Prowse was joined in 1920 by former state MP Henry Gregory, who had originally been elected as a Liberal in 1913 for the new seat of Dampier. In 1922 Prowse moved to the new seat of Forrest, which he represented until 1943, while Gregory was returned for the revamped Swan seat, remaining its member until his death in 1940. Labor, for its part, regained Kalgoorlie in 1922, with Albert (Texas) Green holding the seat until 1940 and his successor H. V. Johnson until 1958.

In the metropolitan area, Fowler, the former Laborite, lost National party endorsement in 1922 and the seat went to E. A. Mann, a free-spirited Nationalist who in turn was defeated in 1929 by future Speaker W. M. Nairn. After twenty-two years in non-Labor hands, except for one four-year spell from 1913 to 1917, Fremantle returned to the Labor fold in 1928 with the retirement of popular independent and smallgoods manufacturer W. Watson and the election of John Curtin. Curtin, whose potential place in the Scullin ministry in 1929 went to Green, lost the seat back to Watson after the Depression split in 1931 but regained it in 1934, and one year later was elected by one vote as Labor's federal parliamentary leader, thus becoming the first Western Australian member to head a political party in the federal parliament.

In addition to holding at least three of the five WA lower house seats throughout the 1920s and 1930s, the non-Labor parties dominated all Western Australian Senate elections for twenty years after 1923, except in 1937. In that year two of the three new Labor Senators Robert Clothier and James Cunningham were former state MPs. Among those who made the move on the non-Labor side was former Labor state MLA Edward 'Bertie' Johnston, whose defection in 1915 had contributed to the fall of the Scaddan government. Johnston remained a Senator

from 1929 until his death in 1942. Among other non-Labor state politicians to make the transfer were former Premier Sir Hal Colebatch, who sat in the Senate from 1929 until his appointment as Agent-General in 1933; and former Legislative Council President Sir Walter Kingsmill, from 1923 until his death in 1935; while former state opposition leader Sir Charles Latham represented the Country Party in the Senate for less than a year from 1942 before returning to state politics in the Legislative Council.

With Pearce's defeat in 1937 the only Western Australians in the Lyons and Menzies ministries were lower-key members including former party official Allan MacDonald and RSL President Herbert Collett. Curiously, however, between 1929 and 1943 Western Australian MPs held the post of President of the Senate for all but two years, and, in addition, Perth MHR Nairn was Speaker of the House of Representatives from 1940 until the 1943 election. In a series of close party votes for the Senate presidency, former Labor Senator Patrick Lynch was narrowly defeated in both 1926 and 1929, on the second occasion on a casting vote given by fellow Western Australian George Pearce in favour of Walter Kingsmill, who in turn was narrowly defeated by Lynch in 1932. Lynch also won the 1935 party room ballot but lost his Senate seat in 1937, retiring on 30 June 1938. In an even tighter contest former Labor state MP James Cunningham won the secret ballot on the floor of the Senate in 1941, but only after the result had literally been decided by a name drawn from a hat.

With the fall of the Fadden government in October 1941, Curtin became the first and only Australian prime minister to represent a Western Australian parliamentary seat. For the first year and a half of his administration his party did not have a majority in either House, but the August 1943 election saw a dramatic reversal of electoral fortunes for the ALP, which won all five Western Australian lower house seats and all four

Senate vacancies being contested. This was coupled with a follow-up success in 1946 when the party retained four of the five seats in the House of Representatives, and, again, all available Senate vacancies meant that from 1 July 1947 until the December 1949 election the only non-Labor representative from the West in either House was Country Party member Leonard Hamilton, who had won Swan in 1946 from the one-term Labor member Donald Mountjoy. Apart from Curtin himself, the only Western Australian MP in his ministry was Senator James Mackintosh Fraser, who administered variously External Territories, Health and Social Services, as well as acting as Army minister on several occasions while in the Chifley governments. After Curtin's death in July 1945 the Western Australian cabinet slot went to Kalgoorlie member Herbert Johnson, who had succeeded Green as member for Kalgoorlie in 1940, while towards the end of 1946 Fraser was replaced by Forrest MLA Nelson Lemmon, who had first won the seat in 1943. On the back bench one noteworthy addition was Dorothy Tangney, who in 1943 became the first woman elected to the Senate and in all served for twenty-five years, the longest federal parliamentary term of any woman in the twentieth century.

Not surprisingly, the 1949 election brought a new and important influx of non-Labor members from WA. The most notable of these was Paul Hasluck, the member for the new seat of Curtin who served continuously in the Menzies and subsequent ministries from 1951 until his appointment as Governor-General in 1969. Hasluck, who was bypassed for Gorton for the prime ministership after the death of Harold Holt in December 1967, was Minister for Territories until 1963, and after a year in the Defence portfolio was responsible for External Affairs for the last five years of his parliamentary career. Other future ministers to enter parliament in 1949 were Gordon Freeth, who held Forrest for twenty years until his narrow defeat in 1969,

and Liberal Senator Malcolm Scott. Freeth first became a minister in 1958 and held the External Affairs portfolio in the last year before his defeat, while Scott was a member of the Gorton ministry until the 1969 election. Other Western Australians in the ministries during these years included Senator Shane Paltridge from 1955 until his death in 1966; and Perth MHR and one time state RSL president Fred Chaney in the Menzies and Holt ministries from 1964 to 1967. After Freeth's defeat at the 1969 election, the only Western Australian members in the Gorton or McMahon ministries were Country Party Senator Thomas Drake-Brockman, from 1971, and Hasluck's successor in Curtin, Ransley Victor Garland.

Paradoxically, Gough Whitlam's electoral victory in 1972, to end Labor's twenty-three-year drought at the federal level, also saw Labor's lower-house representation from the West fall to four seats out of nine, compared with six in 1969 at which time Garland was the only federal Liberal member from the West. By contrast, in the depths of its post-split trough in 1958, Labor had won only Fremantle of the nine Western Australian seats; and in 1975, following the Whitlam sacking, his minister for Education, Kim Beazley senior, who had first won Fremantle at the by-election following Curtin's death in July 1945, was again the sole Labor MHR from the West, as was his successor John Dawkins, previously the MHR for the new seat of Tangney between 1974 and 1975. Apart from Beazley the only other Western Australian minister throughout the term of the Whitlam government was Senator Don Willesee, who held the Foreign Affairs portfolio after 1974. In that year they were joined as ministers by Senator John Wheeldon, and in mid 1975, for the last few months of the government's life, by Perth MHR Joe Berinson. The latter, after losing his federal seat in 1975, returned to state politics in 1980 and was Attorney General in a succession of state Labor governments from 1983 to 1993.

On the non-Labor benches two former state MPs who represented the Country Party in the 1950s and early 1960s were Senator Harrie Seward and Moore MHR Hugh Leslie. However, in 1974 the Country Party lost both its lower house seats to the Liberals, and since the retirement of Senator Tom Drake-Brockman on 30 June 1978 there have been no Country (National) Party representatives from the West in Canberra. In the Liberal ranks prominent Western Australians in the Fraser government included Senate leader Reg Withers, one of the masterminds behind the 1975 budget strategy; Attorney General Peter Durack, who before entering the Senate in 1974 had already served one term in the state's Legislative Assembly; Stirling MHR (from 1972) Ian Viner, as Minister for Aboriginal Affairs; and Garland, who resigned from the ministry in 1976 following involvement in a court case during a dispute over electoral redistribution, and again late in 1980 before being appointed High Commissioner to the United Kingdom and subsequently knighted. From 1980 Fred Chaney junior, who like Durack had entered the Senate in 1974, held the post of Minister for Social Security, during which time he tried unsuccessfully to secure endorsement for the Curtin seat made vacant by Garland's departure. Between 1989 and 1990, Chaney, while still a Senator, held the post of Deputy Leader of the Opposition and then served one term in the House of Representatives for the new seat of Pearce.

Meanwhile, Labor's numbers in the House of Representatives from the West had risen progressively to three, then seven out of eleven, in 1980 and 1983 respectively, and eight out of thirteen in 1984 and 1987. In addition to regaining Kalgoorlie through maverick MP Graeme Campbell, Labor won the new metropolitan seats of Brand and Cowan (from 1984) as well as the redrawn semi-urbanised seats of Canning and Moore, and the traditional marginals Stirling and Swan. During Hawke's eight-year term as

prime minister, Western Australians who held key ministerial posts included Senator Peter Walsh, Finance Minister from 1984 to 1990; John Dawkins, in Trade, then Education, Employment and Training; and Kim Beazley junior, in several portfolios including Defence from 1984 to 1990. Beazley, who entered parliament in 1980 for the marginal seat of Swan, was able to move to the safe seat of Brand, south of Fremantle, following the retirement in 1996 of Western Australia's first woman MHR Wendy Fatin after thirteen years in the seat, herself a junior minister for three years. In the subsequent Keating Ministry the most senior Western Australians included John Dawkins as Treasurer, until his resignation from parliament in 1994; Beazley, who became Deputy Prime Minister in June 1995; and Senator Peter Cook, a junior minister in the Hawke government, who held portfolios in Trade and then Industry. Dawkins' resignation from parliament cleared the way for ousted Western Australian Carmen Lawrence, Australia's first woman Premier, to cross to federal politics in March 1994. Only the third member for Fremantle since Curtin, she moved immediately into Cabinet in the Health portfolio. At this stage there were four Western Australians in the Keating Cabinet; and during this period of Labor dominance, former state party secretary Senator Michael Beahan was President of the Senate from 1994 to 1996.

Labor's defeat in 1996 saw its Western Australian lower-house representation drop to three seats out of fourteen, a net loss of four since 1990, though Kalgoorlie was still held by Labor Independent Graham Campbell. On the Liberal side two otherwise safe seats—Curtin and Moore—were held for one term by breakaway independents, the Curtin situation arising from the failed Liberal party attempt to oust sitting member Alan Rocher in favour of Ken Court, the son and brother respectively of former state premiers Sir Charles Court and Richard Court. In 1998 Labor won back Cowan, Stirling and Swan, but endorsed Liberal candidates Julie Bishop and Mal Washer were returned for Curtin and Moore, and the Liberals captured Kalgoorlie giving the parties seven seats each in the fourteen-person delegation. By 2004 Labor's representation had dropped to five out of fifteen seats with the loss of Stirling and the new seat of Hasluck (after only one three-year term), with the Liberals holding the remaining ten.

The greater turnover of members since the late 1960s has meant that a number of lower-house Western Australian members have come and gone without the opportunity to make their mark in parliament or the ministry. Between 1996 and 2003 the only Western Australian in the Cabinet was Attorney General, and later Communications minister, Daryl Williams, a former Rhodes scholar who first entered parliament for Tangney in 1993 and retired from politics in 2004. Western Australian ministers in the Howard government (1996–2007) included Judith Moylan from 1996 to 1998, Geoff Prosser from 1996 to 1997, Wilson Tuckey from 1998 to 2003, Senator Ian Campbell from 2004 to 2007, Julie Bishop from 2006 to 2007 and Senator Chris Ellison in 2007. On the Labor side, Kim Beazley junior was Leader of the Opposition between 1996 and 2001, and from 2005 to 2006, and former state secretary Chris Evans became Opposition Leader in the Senate in 2004, while other Western Australians on the front bench included Stephen Smith, another former state party secretary and Perth MHR since 1993, and Senator Mark Bishop. Evans and Smith became ministers in the Rudd ALP government in 2007. **David Black**

See also: Cinderella state; Commonwealth, relations with; Federal movement; Politics and government
Further reading: F. A. Millar (ed.), *The biographical dictionary of the Australian Senate* (2000)

Feeding depots, sometimes referred to as ration depots, provided a weekly issue of food to needy Aboriginal individuals and families. Depots were under the supervision of a government-authorised officer, such as a constable or missionary.

The major metropolitan depots were at Mongers Lake in 1833, the Native Institution below Mount Eliza (1833–38), and Maamba Reserve at Welshpool (1901–08). Later in the twentieth century there were depots at La Grange, Wallal, Fitzroy Crossing, Giralia, Gascoyne Junction, Jigalong, Roebourne, Tableland, Whim Creek, Wodgina, Karonie, Cosmo Newbery and Israelite Bay. As the population attracted to a depot increased, a few, such as Fitzroy Crossing, La Grange, Cosmo Newbery, Jigalong and Cundeelee, were transferred to the care of missionaries and became recognised mission communities.

A weekly ration of flour, and sometimes meat and tobacco, was made to persons incapacitated by age, illness and disabilities that prevented them hunting and gathering or seeking employment. In many localities rations were issued to persons made destitute through the loss of access to traditional foods, or by dispossession as vast areas were taken up by settlers for agriculture and pastoralism. The excessive shooting of game for skins and severe drought also contributed to family poverty.

Apart from the depots, rations were issued to needy individuals by police officers acting as local protectors of Aborigines. This was the case for Nyoongars camped at Perth, Guildford and Claremont in about 1900, when rations were also issued from 120 towns and pastoral stations, a figure that increased to 129 in 1936 during the Great Depression. Sometimes the needy were also given clothing and a blanket.

The weekly adult ration issued at Northam in 1909 was 10 pounds (4.5 kilograms) of flour, 1.5 pounds (680 grams) of sugar, 4 ounces (113 grams) of tea, and one stick of tobacco. Meat, vegetables and fruit were not included at that time, for despite the area being fenced farming land, the men were still expected to hunt wild game. Meat was included only in the adult ration at Quairading in 1915. At Derby in 1958, the more generous ration, which reflected an increased awareness of health and nutrition, included potatoes, onions, jam, milk, salt and soap.

With improved access for Aboriginal people to social services after 1959, rationing was abolished. **Neville Green**

See also: Fringe dwellers; Karonie feeding depot; Perth Native Institution
Further reading: P. Biskup, *Not slaves, not citizens* (1973); A. Haebich, *For their own good* (1988)

Female suffrage in Western Australia is usually viewed as being achieved in 1899 when the colony became one of the first places to grant women the vote, preceded only by four American states, New Zealand in 1893, and South Australia in 1894. White women could vote for the Legislative Assembly and the Legislative Council, the latter subject to a property qualification. Aboriginal women and men, and other migrants of colour, however, were not enfranchised by the *Constitution Acts Amendment Act 1899*. Although a great achievement, the 1899 Act was not an end point for female suffrage, but counts as a significant milestone.

That the campaign for female suffrage achieved its goals relatively quickly between 1893 and 1899 must be considered in the perspective of achieving universal suffrage. Manhood suffrage in WA was legislated in 1893, at which point attention focused on women's right to vote. Although the Premier, Sir John Forrest, claimed in parliament that he had not heard women asking for the vote, his wife, Lady Forrest, was to become one of the key suffragist supporters. John Forrest's opposition to female suffrage is viewed more as political expediency than personal belief.

A brief but spirited campaign ensued, led by the Women's Christian Temperance Union (WCTU WA), the Karrakatta Club, a progressive society for affluent women, and the Women's Franchise League. Some activists had influential partners, as in the case of Eleanora (Gwenyfred) James, whose husband Walter led support for the suffrage debate in the Legislative Assembly. There was a precedent, in that single women of property had voted in municipal elections in WA since 1876. Supporters promoted the civilising influence of women, an attractive argument to conservative politicians concerned about the political influence of radical labourers flooding onto the goldfields after 1893. When Forrest's opposition wavered, the resulting Act extended the vote to all persons twenty-one years and over, although Aboriginal people had to be property owners, a claim difficult to prove.

Because they had already been enfranchised by their respective states, white women in South and Western Australia formally gained the federal vote in 1902, effectively forcing the adoption of female suffrage for non-Aboriginal women for all federal elections. The *Commonwealth Franchise Act 1902* did not include 'coloured races' or Australian Indigenous people. Full franchise came for them in 1962 for both Commonwealth and state, but voting was not compulsory for Aboriginal people until 1983. In 1984 the WA municipal franchise was extended to all adults over eighteen years of age on the state electoral roll.

Suffrage supporters usually considered the franchise as the first step in facilitating women's representation in parliaments and public office. Not until the *Parliament (Qualification of Women) Act 1920* were women entitled to stand for state parliament. In 1921 Edith Cowan became the first successful Western Australian woman, and, indeed, the first woman, to be elected to any parliament in Australia. Her success did not open a floodgate, however, and women have yet to gain equal representation in all political arenas.

The early achievement of white female suffrage deserves celebration but should not obscure the protracted struggle Aboriginal women and women of colour faced in securing their political rights. **Judy Skene**

See also: Aboriginal women; Citizenship; Citizenship, Aboriginal; Feminist movements; Gender; Karrakatta Club; Women's Christian Temperance Union
Further reading: P. Grimshaw and K. Ellinghaus, 'White women, Aboriginal women and the vote in Western Australia', in P. Crawford and J. Skene (eds) *Women and citizenship: suffrage centenary: Studies in WA History* (1999); A. Oldfield, *Woman suffrage in Australia: A gift or a struggle?* (1992)

Feminist movements in Western Australia had their beginnings with the founding of the Women's Christian Temperance Union (WCTU) at York in 1892. While the WCTU's main interest was temperance, it strongly emphasised female suffrage, believing women could most easily remedy social ills through the ballot box. In 1893 the WCTU organised the first public meeting in Perth to promote women's suffrage; a strong resolution was passed and presented to the Premier, Sir John Forrest. The Union continued to campaign for suffrage throughout the 1890s through public meetings, newspaper letters and opinion columns, and in 1899 by the setting up of a Women's Franchise League. That year also saw a change of heart in the premier, who agreed to give women the vote, making WA the second Australian colony to do so.

The founding of the WCTU was followed in 1894 by the establishment in Perth of the Karrakatta Club, to encourage women to take an interest in public affairs, examine legislation passing through parliament and be trained in public speaking and debate. While the WCTU and the Karrakatta Club continued to promote the interests of women, serious

political activism began with the formation of the Women's Political and Social Crusade (later the Women's Labor League) in Fremantle in 1905, and the launching of the Women's Service Guild (WSG) in Perth in 1909. The former, which was strongly influenced by its founder and inaugural president Jean Beadle (1868–1942) until her death, campaigned for equal pay and for equal rights for women within the Labor Party. The Women's Service Guild's platform also called for equal pay as well as the opening of all professions, including law and medicine, to women. In addition, a Western Australian National Council of Women (NCW) was established in 1911, acting as an umbrella organisation for any bodies that included women as members.

Harmonious relations between the various women's organisations were shattered with the introduction of an amendment to the state's *Health Act 1911* in 1915 by the Scaddan Labor government. This was similar to a notorious British Contagious Diseases Bill introduced in 1864, which provided for the forcible examination of any person suspected of having venereal disease. In practice, this was used mainly to harass prostitutes, and British feminists had fought a long and bitter battle to get it repealed. In WA the proposed amendment was supported by Edith Cowan (1861–1932), then president of the National Council of Women (NCW), but strongly opposed by all other prominent feminists led by Bessie Rischbieth (1874–1967), president of the WSG. An entire issue of the women's magazine *Western Women* was devoted to the Act, with opponents of the legislation advocating education and confidential voluntary medical treatment rather than coercion.

This clash was followed by an attempt by Cowan to use the NCW to control the activities of other organisations, especially the WSG, and resulted in the withdrawal from the NCW in 1916 of the three clearly feminist organisations which had affiliated with it: the WSG, the WCTU and Labor Women.

Nevertheless, Cowan successfully stood for election to state parliament when women became eligible to do so in 1921, becoming the first woman to be elected to any parliament in Australia.

By 1920 the Women's Service Guild had expanded, with branches in both the suburbs and the country, and a central executive was created to administer the organisation, which was renamed the Women's Service Guilds of Western Australia (Non-Party). Bessie Rischbieth, together with veteran South Australian WCTU campaigner Elizabeth Nicholls, had been trying to establish a national organisation with a feminist agenda, and in 1921 the Australian Federation of Women's Societies (AFWS) came into being, with politically active feminist groups in all other states affiliating with it. It was almost immediately renamed the Australian Federation of Women Voters (AFWV), and Rischbieth became its first president, remaining so until 1942. The headquarters of the AFWV remained in Perth during this time, and Perth became, in the words of a prominent Victorian feminist, 'the Mecca of the women's movement in Australia'. Rischbieth immediately affiliated the AFWV with the International Women's Suffrage Alliance (IWSA) and led delegations of Australian women to congresses in Rome, Honolulu, Berlin, Istanbul, Copenhagen and Colombo. She also became a foundation Vice President of the British Commonwealth League, which she helped to establish in 1925, and was elected in 1926 to the board of IWSA, remaining an active board member for twenty years.

The AFWV and the Guilds supported Mary Montgomerie Bennett (1881–1961) in her attempts to improve the lives of Aboriginal women and to protect them from sexual exploitation. Bennett was very vocal in her criticism of the treatment of Aborigines by white settlers, and her statements to the Commonwealth League Conference in London in 1933, and the subsequent publicity in the London press, led directly to the appointment

of the Moseley Royal Commission to inquire into the treatment and condition of Aborigines in 1934–35. Rischbieth and other prominent feminists gave evidence deploring the practice of removing children from Aboriginal families and other forms of racial discrimination and oppression.

During the 1930s, feminist organisations in WA were strongly involved in peace movements, organising regular peace marches for Armistice Day. In 1931 the Australian section of the Women's International League for Peace and Freedom (WILPF) enlisted the Guilds and the AFWV to gather signatures for a Great Peace Petition to be presented to the Disarmament Conference of the United Nations held in Geneva in 1932. A Western Australian branch of WILPF was formed in 1933.

When war broke out in 1939, feminist organisations threw their support behind the war effort, but continued to press strongly for equal pay and opportunities, and an Equal Pay for Equal Work Committee was formed in WA in 1941. Popular radio broadcaster Irene Greenwood (1898–1992), who had hitherto played a minor role within feminist organisations, moved to the forefront and represented the Women's Service Guilds on the Committee. Lobbying for equal pay continued throughout the 1950s and 1960s, and Equal Pay Week rallies were organised from 1960, receiving the support of the WA Trades and Labour Council from 1962. The principle of equal pay was finally accepted by the Arbitration Court in Melbourne in the National Wage Case of June 1967.

The Second World War also saw the attempted takeover of the Australian national feminist movement by NSW activist Jessie Street through the medium of the Australian Women's Charter, a duplication of the AFWV. This was less successful in WA than elsewhere because Bessie Rischbieth rallied the local feminists from her exile in London where she had been stranded for the duration of the war.

Women's right to serve on juries had always been part of the platform of the Women's Service Guilds, and in 1953 there was a combined approach by the Guilds and the Labor Women's Central Executive to the state government on this issue. After intense lobbying, in 1957 WA became the first state to admit women to jury service on the same terms as men.

In the postwar years Western Australian women divided along pro- and anti-Soviet lines, as Cold War hostilities proved to be stronger than feminist loyalties. The Women's Service Guilds, formerly the most active feminist organisation, gradually spread their energies during the 1960s over a wide range of charitable and non-feminist social issues, especially after the death of Bessie Rischbieth in 1967, although the Guilds did make an attempt to attract younger women with the formation of the short-lived Harvest Guild in 1972.

The 1970s saw the rise of a new kind of feminism, much more confrontational than the old, and Women's Liberation was launched at a public meeting in May 1972. Harvest Guild members headed by Wendy Fatin, future Minister Assisting the Prime Minister for the Status of Women, started negotiations with Women's Liberation, and in March 1973 the two groups combined to form a Western Australian branch of the Women's Electoral Lobby. Former equal-pay campaigner Irene Greenwood joined the new group and was invited to serve on the National Advisory Committee for International Women's Year 1975.

The new wave of feminists emphasised hitherto neglected issues like domestic violence, rape and contraception and set up women's refuges and rape crisis centres as well as networking agencies like the Women's Information and Referral Exchange (WIRE). Women stood for parliament in increasing numbers and during the 1980s and 1990s important feminist legislation was passed on sex discrimination and abortion, while

in 1990 Carmen Lawrence became the first feminist premier (and the first woman premier) in Australia. **Dianne Davidson**

See also: Aboriginal women; Abortion; Citizenship; Female suffrage; Gender; International Women's Day; Jury service; Karrakatta Club; Peace movement; Venereal disease; Women and political representation; Women, world wars; Women's Christian Temperance Union; Women's Electoral Lobby; Women's health organisations; Women's refuges; Women's Service Guild

Further reading: P. Cowan, *A unique position: a biography of Edith Dircksey Cowan, 1861–1932* (1978); D. Davidson, *Women on the warpath: feminists of the first wave* (1997); S. Murray, 'Taking action against domestic violence in the 1970s', in P. Crawford and J. Skene (eds), *Women and citizenship: suffrage centenary: Studies in WA History* (1999); A. Oldfield, *Woman suffrage in Australia: a gift or a struggle?* (1992)

Fenians In what was to be the last shipment of convicts to Western Australia, sixty-two Irish Fenian political prisoners from Portland penitentiary arrived in Fremantle in the *Hougoumont* transport on 10 January 1868. News of their dispatch had caused extreme anxiety among the citizens of Perth but their good behaviour in the colony belied their dread reputation. The Fenians were members of the Irish Republican Brotherhood, a revolutionary organisation established in Ireland and the United States in 1858 to expel the British from Ireland. An abortive uprising in Dublin in March 1867 followed an intensive campaign by John Devoy to recruit supporters within the British Army.

Sixteen of the arrivals, including John Boyle O'Reilly (1844–90) of County Meath, were military offenders who were kept separate on the voyage. O'Reilly had been sentenced to death, commuted to twenty years' penal servitude, on 10 July 1866 for failure to report an intended mutiny by the 10th Hussars in Dublin. Thanks to William Gladstone becoming British Prime Minister in December 1868, thirty-four received free pardons in May 1869. The remainder were put to work in convict road parties, including O'Reilly, who was sent to Bunbury in February 1868. Appointed constable for his good behaviour, he managed to escape in an American whaler, the *Gazelle*, on 3 March 1869. Established in Boston as editor of *The Pilot*, he and Devoy organised the rescue of the six remaining military Fenians from Rockingham, south of Perth, in the chartered whaler *Catalpa* under Captain James Anthony, on Easter Sunday 1876. Two American Fenians, John Breslin and Captain Thomas Desmond, had been sent out ahead to make the escape arrangements.

The event caused an uproar in the colony and was celebrated by Western Australians in an early folk ballad. It also occasioned a major internal inquiry within the Convict Establishment and the dismissal or demotion of some officers. By 1874 the other Fenians had already received pardons, a few going back to Ireland and more to the United States, while some of the fifteen or so remaining in Australia moved to Melbourne, where the Released Irish State Prisoners Fund ('The Relief Fund') had been earlier established by Fenian John Kenealy. Two survivors, Thomas Duggan and James Kiely, were in Perth to meet the visiting Irish nationalist MP William Redmond in April 1905. For many years Kiely led the St Patrick's Day procession in Perth. Most successful of the Fenians was Joseph Noonan (1842–85) who married into the prosperous Perth Catholic family of Farrellys and worked with fellow Fenian Hugh Brophy as a builder-architect on government and Catholic Church projects, including St Mary's Convent and Cathedral in Perth and St Patrick's, York. Of the original sixty-two Fenians, only fifteen died in Australia and the majority in the United States.

Several sets of Fenian journals and memoirs have been published, and since 2002

the *Catalpa* escape has been the subject of an annual re-enactment. The *Wild Geese*, the hand-written newspaper produced by the Fenians on board the *Hougoumont*, is held by the Mitchell Library, Sydney. O'Reilly's romantic novel set in WA, *Moondyne*, was published in Philadelphia in 1879, ten years before his death, and he also published a number of poems on Western Australian themes. There are memorials to O'Reilly in Boston and at Australind, north of Bunbury, where an annual ceremony is held to commemorate his achievements. **Bob Reece**

See also: Convict legacy; Convict ships; Convicts; Fremantle Prison
Further reading: R. Erickson and G. O'Mara, *Convicts in Western Australia, 1850–1887* (1992); A. G. Evans, *Fanatic heart: a life of John Boyle O'Reilly 1844–1890* (1997); T. M. Fennell, edited by P. Fennell and M. King, *Voyage of the* Hougoumont *and life at Fremantle: the story of an Irish rebel* (2000); C. W. Sullivan (ed.) *Fenian Diary: Denis B. Cashman on board the* Hougoumont (2001)

Feral animals are domestic (usually vertebrate) animals that became wild once they strayed from areas occupied by humans and established populations independent of any further provision of resources by humans. The first animal species known to have become feral in Western Australia was the wolf *Canis lupus dingo* (dingo). This was brought from South-East Asia some 3,500 years ago. With the coming of Europeans in 1826 (King George Sound) and 1829 (Swan River), livestock (cattle, sheep, goats, pigs, horses, donkeys), other sources of animal food (poultry, pigeons, rabbits, honeybees), and pets (dogs, cats, ferrets) were introduced. Some of these animals strayed from farms and villages into the surrounding bush. This process undoubtedly took time, as dingos, wedge-tailed eagles and other native predators, as well as Aborigines, would have killed

many. Feral cattle were first reported in the early 1830s near Perth, as well as in the upper Kalgan and Hay River districts near Albany, and also near Toodyay. However, Aboriginal tradition suggests that wild cattle north-west of Toodyay originally came from the north-east in c. 1817, presumably overland from near Sydney. As settlement extended and predators were subdued, house mice, rats and cats established wild populations. Mice and cats had reached the remote deserts by 1900.

In WA, feral pigs were first reported near Perth in 1831. By the 1840s they occurred near Bolgart, where they provided sport for hunters. Pigs are now feral in the wetter parts of WA, and in the South-West have spread *Phytophthora* (water mould) and damaged the habitat of the quokka. It appears unlikely that sheep could persist as feral populations, but goats were recorded straying in the early 1830s at Augusta, and in 1841 near Picton. Goats were particularly valued in drier districts as a source of milk, and most feral populations of goats currently occur in the Pilbara, Murchison and goldfields regions, where they threaten rangeland biodiversity.

Early evidence of wild horses was provided by J. Wollaston near Picton (1841), E. Eyre near Cheyne Beach (1841), and H. Landor and H. Lefroy near Dumbleyung (1843). As settlement proceeded, brumbies were mustered for farm-work as required. Many farm horses were abandoned in the bush in the 1920s to 1940s as trucks and tractors came into general use. Most brumbies in South-West WA were shot out by the 1960s for the pet meat industry.

Although donkeys were introduced in 1833 at Albany, they did not become common until the 1890s, when they were used in teams to haul goods in the goldfields and pastoral regions. Camels were introduced in 1884 and also served as draught animals. Like horses, donkeys and camels were turned loose in the 1920s once trucks came into general use.

The rabbits introduced by settlers became feral but did not thrive or spread far. They

were recorded near Swan and Canning Rivers (1850s), Greenough (1885) and Cheyne Beach (1886). Rabbits were also put on ten islands in the period 1834–97, presumably as a convenient source of fresh meat and sport. **Ian Abbott**

See also: Acclimatisation; Camels; Environment; Exotic fauna; Exotic plants and weeds; Livestock; Pests; Rabbit-proof fence; State barrier (emu and vermin) fence; Zoological gardens

Further reading: I. Abbott, 'Origin and spread of the cat, *Felis catus*, on mainland Australia, with a discussion of the magnitude of its early impact on native fauna', *Wildlife Research (CSIRO)*, 29, 1 (2002); J. L. Long, *Introduced birds and mammals in Western Australia* (1988); R. Strahan (ed.), *The mammals of Australia: the national photographic index of Australian wildlife* (1995)

Ferries have plied the Swan River, the only WA waterway regularly navigated by such craft, since 1829. Nature provided the colony's first white settlers with a magnificent highway in the absence of any roads, and ships' gigs, locally built row boats and punts were soon ferrying people and materials inland. The cash-strapped colony, short of labour to build railways or roads over the sandy coastal plain, was entirely reliant on the river for transport. Even for many years after the building of the first railway between Fremantle and Midland in 1881, people and cargo were transported upstream to Guildford by river craft. Here they began their tortuous journey inland over rough tracks, if any, by horse and cart.

Progress of commercial craft on the river can be gauged by a number of significant events. The first professionally built ship of consequence, the *Lady Stirling*, was launched at Eliza Bay on 19 May 1836; the first steamer built entirely in the colony, the *Speculator* (later renamed *Pioneer*) was launched in 1854; the first dredge, *Black Swan*, arrived from England in 1869; the first screw steamer built in Perth, the *Lady Ord*, was the first steam ferry between Perth and South Perth; and the first diesel ferry, *Duchess II*, was built in 1937.

Ferries first operated from jetties at South Bay and Whiting Point in Fremantle, Barrack Street in Perth, and Meadow Street, Guildford. The first jetty serving South Perth was built at Mill Street in 1842, a year after the William Street jetty was completed. By 1900 there was a proliferation of jetties serving newly developed estates at South Perth, Canning Bridge and along the river. Ferries first ran to Rottnest Island in 1911 when it was converted from an Aboriginal penal centre to a holiday resort. The lifeblood of trade and commerce in the early days, ferries still play a significant part in conveying weekday commuters and weekend pleasure-seekers on the Swan River and between the mainland and Rottnest Island. **Keith O. Murray**

See also: Boat and ship building; Rivers, Avon, Swan, Canning; Rottnest Island; Transport

Further reading: H. Cameron, *Fifty years afloat: the autobiography of a ferryman* (1996); R. Dickson, *They kept this state afloat: shipbuilders, boatbuilders and shipwrights of WA, 1829–1929* (1995); K. O. Murray, *From oar to diesel on the Swan* (2004)

Festival of Perth The UWA Perth International Arts Festival (formerly Festival of Perth) is Western Australia's premier annual cultural event and one of the world's oldest and largest multi-arts festivals. Established in 1953 as the Festival of Perth, it has profoundly influenced the state's creative landscape, building new audiences, and promoting innovation and excellence.

The festival had an unusual genesis. After the Second World War, The University of Western Australia's Adult Education Board (AEB), under the direction of Professor Fred

Alexander, established an annual Summer School. It was decided that attendees, including many from regional WA, should be offered an evening program of music, drama and dance performances, along with screenings of avant-garde and foreign-language films. The University's two outdoor venues, the Sunken Garden and the Somerville Auditorium, were pressed into service, providing idyllic settings for performances on balmy summer evenings. Buoyed by the enthusiasm for the Summer School's arts program, and inspired by the success of the Edinburgh Festival (established 1947), Alexander and his colleagues became excited by the notion of creating a fully fledged arts festival hosted by the University each summer. The vision was to present audiences with 'the best that is available from British, European, American, Asian [and] Australian sources'.

The inaugural 1953 festival was a modest affair, leisurely staged over three months (January to March). It offered three films, four locally produced theatre seasons (including Shakespeare's *Richard III*, directed by visiting Englishman Michael Langham), two nights of ballet, and four music concerts (performed by the WA Symphony Orchestra), attracting a total attendance of 28,991.

Encouraged by the public response, the AEB appointed a Festival of Perth committee, with the executive officer position ultimately going to Alexander's deputy, Polish-born John Birman. A film enthusiast, Birman steered the festival's development until 1976, its scope, scale and professionalism growing year by year, with early financial support coming variously from the City of Perth, the Australian Elizabethan Theatre Trust and the state government. In 1959 Birman introduced an international film season (the enduring popularity of which continues to subsidise other festival offerings), and boldly presented the world premiere of James Penberthy's opera *Dalgerie*. With a libretto by Mary Durack, its exploration of a station manager's love for an Aboriginal girl 'created a furore throughout

Australia'. Two new University theatres—the New Fortune (1964) and The Octagon (1968)—enhanced Birman's international programming options (the Black Theatre of Prague appeared in 1964), while the Perth Concert Hall (1973) and other non-campus venues also served to expand the festival's reach. By the early 1970s the festival was regularly attracting a total audience in excess of 200,000. It had embraced the visual arts and introduced free events, the most popular being the festival opening concert.

Englishman David Blenkinsop succeeded Birman, programming twenty-three festivals prior to retirement in 1999. Under his directorship (one of the most enduring in Australian arts history), the festival came of age as an event of genuine international stature. Using venues across the city, Blenkinsop brought to Perth many of the world's foremost orchestras, choirs, music ensembles, theatre companies, dance troupes and solo performers. Symphonic music, contemporary dance, innovative interpretations of Shakespeare, foreign-language theatre and 'art house' films were all hallmarks of his programming. Visual arts exhibitions became more prominent, as did things literary (with the poetry readings of the early 1980s evolving into fully fledged writers' events by the late 1990s), while large-scale free concerts, street theatre and the Festival Club all came to be accepted as standard festival fare.

Concerts by Sir Georg Solti and the Chicago Symphony Orchestra, and the monumental nine-hour Australian premiere presentation of Peter Brook's *Mahabharata* at the Boya Quarry, both in 1988, are among the many programming highlights of the Blenkinsop era. Two landmark theatre productions were distinctively Western Australian and went on to enjoy international success: *No Sugar* (1985) by Aboriginal playwright Jack Davis, and the adaptation of Tim Winton's best-selling novel *Cloudstreet* (1998).

The Blenkinsop years have been admired for their financial restraint. In consistently

delivering quality international programs, just ten of his twenty-three festivals lost money, and on only three occasions did the losses exceed $100,000, with these losses being budgeted for and covered by reserves.

Blenkinsop's successor was Irish-born Sean Doran. His tenure brought a change in name—the Perth International Arts Festival—and a significant increase in staff and associated infrastructure. Somewhat controversially, he dropped the annual commissioning of a prominent artist to design the festival poster, the unveiling of which, during Blenkinsop's time, was a much-anticipated media event. Doran also opted for an earlier starting date than had become customary, but his big-picture vision was undeniably bold, encompassing a series of four millennium celebration festivals, each thematically linked to an element of nature—water, earth, air and fire. His 2000 'Water' festival featured a number of mini-festivals in regional WA and resulted in the festival's first-ever major deficit, reputedly $2.6 million. Doran survived the crisis (thanks to the largesse of UWA and the festival's other key stakeholders) and completed his contract, exiting with 2003's fiftieth anniversary festival. During his four-year tenure he presented works of monumental scale: notably the eighteen-hour Chinese opera *The Peony Pavilion*, Romeo Castellucci's highly confronting *Genesis*, Wagner's *Götterdämmerung*, and Antony Gormley's 'Inside Australia' sculpture project at Lake Ballard in the remote Eastern Goldfields.

Lindy Hume became the festival's first Australian-born director, making her debut in 2004, a highlight being her own production of the Richard Mills opera *Batavia*. Operating with the imperative for financial restraint, Hume built upon Doran's regional program, embraced Indigenous and Indian Ocean cultures, celebrated writers (through the popular 'Words and Ideas' program), commissioned new works with the support of Wesfarmers, and transformed the Perth Concert Hall precinct into the 'Festival Village'. In the first of her four thematically-based festivals, she explored the notion of 'Journey' (2004), followed by 'Transcendence and Transformation' (2005), 'Earthly Pleasure' (2006) and concluding with 'The Human Family' (2007). She is the first director to make a visual arts exhibition ('Seeking Transcendence', 2005) a festival centrepiece, while her 'Nyoongar Boodja' project (2006) celebrated the culture of the Nyoongar peoples of Western Australia's South-West. In 2006, Shelagh Magadza, the Perth Festival's associate director for the previous four years, was announced as Hume's successor, with her tenure commencing with the 2008 festival.

Since 1953 an estimated 7,000 overseas artists have journeyed to Perth to participate in the festival, including many of the giants of twentieth-century arts practice. Tens of thousands of Australian artists have joined them, and the festival's annual estimated economic impact hovers around the $30 million mark. While it remains a UWA initiative, its principal financial investor is the state government through Lotterywest. **Barry Strickland**

See also: Art exhibitions; Dance, performance; Drama festivals; Lotteries; Music; Music festivals; Opera; Theatre and drama; University of Western Australia; Writers' festivals
Further reading: 'Festival of Perth', in P. Parsons (ed.), with V. Chance, *Companion to theatre in Australia* (1995); F. Alexander, *Campus at Crawley: a narrative and critical appreciation of the first fifty years of the University of Western Australia* (1963); B. de Garis (ed.), *Campus in the community: the University of Western Australia, 1963–1987* (1988); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004)

Fiction Early fiction in Western Australia was frequently a hybrid of personal factual accounts of life in the colony overlaid by elements of fiction. An early contribution was John Boyle O'Reilly's *Moondyne Joe: A Story*

from the Underworld (1879). Apart from largely auto/biographical writings there were adventure and romance stories produced by writers who had lived only briefly in WA, if at all. These narratives were often dependent on secondary sources for their background information.

It was not until the 1920s that serious, distinctively Western Australian fiction was produced. E. L. Grant Watson (1885–1970), a scientist with an interest in literature, wrote a number of short stories and novels that had a particular concern for the way nature shaped and influenced humanity. A dominant theme in Western Australian fiction from that time forward has been the relationship between characters and place, especially the natural environment. Katharine Susannah Prichard (1883–1969), with a strong interest in political and social issues, continued in this tradition with her focus on nature in novels and stories set in the South-West (*Working Bullocks*, 1926), the North-West (*Coonardoo*, 1929), and a trilogy set in the goldfields. She also wrote of life in Perth in
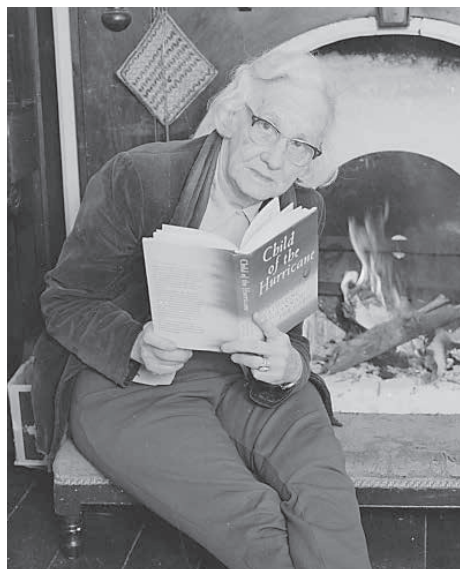
Katharine Susannah Prichard pictured with her autobiography Child of the Hurricane*, 1963. Courtesy* West Australian *(Q9632)*

her novel *Intimate Strangers* (1937), which is one of the first works to explore the use of the coast as a means of establishing the identity of her characters. Seaforth Mackenzie (1913–55), in his precocious first novel *The Young Desire It* (1937), also explores the intimate connections between character and place, especially rural settings. His next novel, *Chosen People* (1938), is one of the rare works of this period to be set in the city. A few years earlier J. M. Harcourt (1902–71) had published *Upsurge* (1934), a socialist critique of the Depression and city life. It was banned some months after publication, supposedly for its explicit sexual references, but also, it would seem, for its radical politics.

A writer with a special interest in the North-West was Mary Durack (1913–94), who is probably best known for her family story set in the Kimberley, *Kings in Grass Castles* (1959). Donald Stuart (1913–83) was also drawn to this region and published a number of strong stories about Aboriginal and white relationships, including his novel *The Driven* (1961). The goldfields is the focus of attention for much of the work of Gavin Casey (1907–64). He is best known for his short fiction and established his reputation with his first collection *It's Harder for Girls; and Other Stories* (1942). Like Casey, Peter Cowan (1914–2002) was both a novelist and writer of short fiction. It is the latter for which he is best known and he is considered by many critics as one of the outstanding short-story writers in the country. He wrote with an economy and strength that pushed the boundaries of the form. *Voices* (1988) was his last collection. Tom Hungerford (born 1915) is also highly regarded for his short fiction, especially the collection *Stories From Suburban Road: An Autobiographical Collection, 1920–1939* (1983). Other notable short-story writers of the period were Henrietta Drake-Brockman (1901–1968) and John K. Ewers (1904–1978). Novelist and short-story writer

Judah Waten (1911–1985) was one of the first to give expression to the immigrant experience.

Randolph Stow (born 1935) was born in Geraldton, and this region is the setting for one of his most highly regarded works, *The Merry-go-round in the Sea* (1965), which is a semi-autobiographical account of Rob Coram growing up in the 1940s. Stow is also known as a poet, and it is this sensibility which informs much of his fiction, notably *Tourmaline* (1963). Poet, playwright and novelist Dorothy Hewett (1923–2002) has produced memorable writing in all three genres, however, one of her most successful works was the autobiographical *Wild Card* (1990). Elizabeth Jolley (1923–2007) has been a dominant figure in Australian fiction for the past twenty years. Perhaps the outstanding works are the trilogy *My Father's Moon* (1989), *Cabin Fever* (1990), and *The Georges' Wife* (1993). Robert Drewe (born 1943) has published a range of novels and short fiction over two decades. Impressive recent works are *The Drowner* (1996), his memoir *The Shark Net* (2000), and *Grace* (2005). Nicholas Hasluck (born 1942) in his novels and short fiction has a particular interest in how history and silences impact on the present. *The Bellarmine Jug* (1984) won the *Age* Book of the Year Award.

Of a younger group of writers, Marion Campbell (born 1948) has received critical acclaim for her imaginative, inventive writing—which are also the hallmarks of writers like Chris McLeod (born 1950), Gail Jones (born 1955) and Brenda Walker (born 1957). Tom Flood (born 1955) won the Miles Franklin award with his first novel, *Oceana Fine* (1990). A characteristic of recent fiction is an interest in shifting Australian identities. This is evident in the work of Jones, in her short fiction and novels, the most recent of which is *Dreams of Speaking* (2006); Simone Lazaroo (born 1961) in *The Australian Fiancé* (2000); Morgan Yasbincek (born 1964) with *Liv* (2000); and Joan London

(born 1948) in both her short fiction and *Gilgamesh* (2002). Tim Winton (born 1960) is widely regarded as the outstanding writer of his period, in WA and beyond. A multiple winner of the Miles Franklin award, he has published eight novels and three collections of short stories for adults. His most recent works are the highly acclaimed *Dirt Music* (2001), *The Turning* (2004) and *Breath* (2008). **Richard Rossiter**

See also: Aboriginal writing; Book publishing; Colonial writing; Essays; Life writing; Literary awards and prizes; Magabala Books; Multicultural writing; Poetry; Science fiction and fantasy

Further reading: B. Bennett, *The Literature of Western Australia* (1979); B. Bennett et al., *Western Australian Writing, a bibliography* (1990); R. Rossiter, 'Reading the landscape: prose literature', in G. Bolton, R. Rossiter, J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); *AustLit: the resource for Australian Literature,* www.austlit.edu.au

Film The first moving pictures were screened publicly in Western Australia amid the ebullience of the gold rush. An excited audience of almost three thousand viewed a series of short Edison films on a bright moonlit Saturday night, 21 November 1896, at an outdoor theatre in Perth, now the site of His Majesty's Theatre. Within ten years, local events such as the Royal Show, the Perth Cup and foot-running races were being filmed and shown at indoor and outdoor theatres throughout the state. Before the First World War, local film companies such as Spencers Pictures were producing films promoting local attractions like *A Trip to Rottnest* (1912), or depicting current events such as *Official film of the busy bee organised to repair the main road between Cottesloe and North Fremantle* (1914), believed to have been filmed by Stuart Booty.

During the next decade, Fred Murphy produced films such as *Western Australia: the land of opportunity* (1920), promoting the De Garis Kendenup land settlement scheme, and also made films for entertainment like the Chaplinesque *Dreams and Screams* (1924). Lack of money in the 1930s stifled local filmmaking, although ornate 'picture theatres' showing escapist Hollywood fare provided relief from the hardship of everyday life during the Great Depression and later the war. Notable exceptions were a documentary for public viewing compiled from offcuts of H. R. Balfour's ethnographic film *The Worora and Ngarinjin Tribes at Kunmunya* (1933), and the poetic documentary *Among the Hardwoods* (1936), with its orchestrated score.

After the Second World War, the state government established the Western Australian Government Film Unit, utilising 16-millimetre film and the talents of local filmmakers like Leith Goodall to produce short films documenting the state's economic and industrial development and to promote WA as a destination for postwar migrants. Topics included working in the asbestos mining industry, *A Town is Born* (1951), the whaling industry, *Hunting the Humpback* (1950), and life in Kalgoorlie, *The Find of '93* (1948).

In the 1960s the state government again provided the impetus for film production by commissioning filmmakers like Bryan Lobascher to document Western Australia's mining boom with short films made for the Department of Industrial Development, such as *The Mineral Wealth of Western Australia* (1963) and *Moving Mountains* (1966). At the end of the 1960s resources boom, John McCallum made Western Australia's first feature film, *Nickel Queen* (1970). Starring Googie Withers, it included cameo performances by various local identities and hundreds of extras.

In the 1960s the first WA television station, TVW Channel 7, not only facilitated documentaries underwritten by the state's newspapers, but also the production of locally-themed dramatic series. These included

Beatles fans sleeping on the footpath outside a theatre in Hay St waiting for the ticket office to open for the movie premiere of A Hard Day's Night, *July 1964. Courtesy* West Australian *(BB0826)*

The Flying Doctors, and an outback natural history show subsequently released nationally by the ABC as *Harry Butler in the Wild*. David Moore's *The Olive Tree* (1975), shot on 16 millimetre, was the first WA telemovie.

Western Australia's motion-picture industry further developed in the 1970s with the establishment of the Perth Institute of Film & Television (now the Film and Television Institute, Fremantle) in 1972, and with Brian Williams becoming head of the Western Australian Film Council (now known as Screenwest) in 1977. These bodies provided many putative film producers with sound beginnings in filmmaking and seed funding and fostered the development of short dramas and feature films as well as documentaries. From the 1980s WA films came to the fore, especially with the films of Paul Barron, such as *Fran* (1985) and *Shame* (1987), and the children's television series *Falcon Island*.

In the 1990s and into the new millennium, director Franco de Chiera's documentary *The Joys of the Women* (1993), the children's television series *Ship to Shore* (1994) and *Minty* (1998), and Goolarri Media's unique made-for-television entertainment *The Mary G Show* (2001), represented WA documentaries and television series produced locally but

televised nationally and internationally. Taylor Media's dramatic series *The Shark Net* (2003), adapted from Robert Drewe's novel, and Prospero Production's *Pipe Dreams* (2006) are recent examples of this trend. While most WA filmmakers emphasised local stories and issues, John Darling and Andrew Ogilvie, who had begun making documentaries in Indonesia and elsewhere in Asia in the late 1980s, continued to look topically at subjects in locations beyond Australian shores.

Aided by the digital revolution and consistent funding initiatives, many WA filmmakers have entered into international co-productions, their work screening globally. These include Taylor Media, Electric Pictures, Alley Kat, Artemis International, Prospero Productions, Excalibur Nominees, Jag and Cecile B. Deux Mels. Several have won awards, such as the documentaries *Lobster Tales* (2000), *Land of the Little Kings* (2000) and *Child Soldiers* (2002). Screenwest and the Film and Television Institute (FTI) have continued to provide emerging filmmakers with substantial support, their work gaining theatrical and festival release. Among these are the dramatic features and shorts *Pilbara Pearl* (1998), *Confessions of a Headhunter* (1999), *Teesh and Trude* (2001), *HMAS Unicorn* (2001), *For Young and Old* (2005), the *Deadly Yarns* (2005, 2006, 2007) series of Aboriginal short films, and animations like *Medusa* (2005).

The state's film industry has also provided beginnings for locally grown actors like Judy Davis, Ernie Dingo, Steve Jodrell, Lois Olney, Maya Stange and Heath Ledger. University and TAFE Media Departments, FTI, Centre for Advanced Digital Screen Animation (CADSA), and Community Television through Access 31 have generated a lively experimental filmmaking sector, sustained through projects with local musicians, dancers, artists and arts organisations, with screenings in a wide variety of venues. Many projects are produced with financial assistance from Screenwest, the Lotteries Commission, the Australian Film Commission, the Film Finance Commission and Film Australia. The professional privately funded sector is still small, with Stephen Hawke and Martin Mhando's *Liyarn Ngarn* (2007) a recent addition. WA has regularly hosted the Small Screen Big Picture and the Australian International Documentary Conference. Each year, new and established filmmakers in all areas of the industry eagerly await the WA Screen Awards, while Australian and WA films with and without cinematic release screen during festivals and at the open-air summer cinemas for which Perth is renowned. **Jennifer Dudley and Gerard Foley**

See also: Cinema; Television
Further reading: G. Foley, 'Western Australia: history and images', in B. McFarlane, G. Mayer and I. Bertrand (eds), *The Oxford companion to Australian film* (1999); T. O'Regan and B. Shoesmith (eds), *The Moving image: film and television in Western Australia, 1896–1985* (1985)

Fire brigade Though fire has always been part of the culture of Indigenous Australians and, since European settlement, has remained a threat, it was not until the end of the nineteenth century that a full-time fire brigade was formed in Perth and a full-time operational fire station was established in Hay Street to coincide with Federation on 1 January 1901. The WA Fire Brigades Board was created in 1909 under the *District Fire Brigades Act* and held its first meeting in 1910. J. M. Lapsley was installed as the first Chief Officer. The Brigade has progressed from horse-drawn hand-operated pumps and clanging bells to siren-voiced high-tech equipment including airborne water bombers. There are now permanent fire stations in Perth and all the major suburbs and towns backed by an extensive network of volunteers. For many years emergency and rescue services operated under separate although cooperative command. In

1995 the name was changed to the Fire and Rescue Service and in 1999 all the operations of fire and rescue and emergency services were brought under the coordination of the WA Fire and Emergency Services Authority (FESA). **John Harper-Nelson**

See also: Aboriginal firing; Bushfires; Fire stations

Fire stations From 1895, when the colonial government began assisting volunteer fire brigades with the purchase of horse-drawn fire engines at major centres, simple shed-like buildings of timber and/or iron located on municipal sites provided weather protection for these appliances and fire-fighting equipment, accommodation for on-duty firemen, and training facilities. After the *Fire Brigades Act 1898* established a Board to control and maintain fire services within Perth, the first purpose-built fire station in Western Australia, designed by architects Cavanagh and Cavanagh, was completed at the corner of Murray and Irwin Streets in 1903. Known as No. 1 Fire Station, the large two-storey building of limestone with a tile roof accommodated fire-fighting appliances and equipment, offices on the ground floor, and firemen's accommodation on the first floor, with a firemen's pole down to the ground floor. In 1904 Boulder Municipal Council built a large masonry fire station, but most fire stations in regional areas were built of timber and/or iron until the interwar period. Cavanagh and Cavanagh designed a new two-storey fire station (1908) at Phillimore Street, Fremantle, of Donnybrook freestone with a tile roof, to accommodate four horse-drawn vehicles, including an ambulance operated by the fire brigade.

The *District Fire Brigades Act 1909* brought rapid development, with forty-two new fire stations built between 1910 and 1917, but few were masonry buildings. After a preliminary sketch, often by the local fire captain, each station was individually designed, frequently by architect J. L. Ochiltree, generally referred to as the Fire Brigades' Board's Architect. From 1920 to 1929 twelve new fire stations were built, at least seven being substantial buildings, including Northam and Collie, designed by Ochiltree, and Victoria Park, designed by architect K. C. Duncan. His standard plan for country fire stations was utilised when building resumed after the Great Depression, and the Board embarked on a period of intense building activity in 1934–38, when eighteen new stations were built, mostly designed by Duncan. Of the five single-bay fire stations, only those at Guildford and Busselton were masonry construction with tiled roofs, the others simply having a face brick facade returning along the side walls, and asbestos or corrugated-iron roofs. As in the previous period, the new fire stations included a small office and accommodation for duty firemen (a practice that would cease in the late twentieth century), with an exercise tower and a running track in the grounds.

During the Second World War only two new stations were built. When the Board's building program recommenced in the 1950s, Duncan, and subsequently Duncan, Stephen & Mercer, designed numerous new fire stations, the basic design remaining much as in the interwar period other than modifications to decorative details. Progressively, masonry construction became the norm for most new fire stations. From the 1970s, as larger and heavier appliances were introduced, earlier fire-station buildings were modified or new fire stations built, as at Fremantle and Perth, and at some regional fire stations metal construction buildings were erected to accommodate additional vehicles and/or new appliances as required. **Robin Chinnery**

See also: Fire brigade
Further reading: Fire and Rescue Service of W.A., *A centenary of service, 1899–1999* (1999); K. A. Wood, *Ready, aye ready: a history of the volunteer fire brigade movement of Western Australia* (1989)

First World War Western Australians responded to the First World War with an enthusiasm greater than elsewhere in Australia. More than 32,000 or 19 per cent of the male population enlisted in the Australian Imperial Force (AIF), a significantly higher proportion than from other states. This represented 8 per cent of the AIF, the only entirely volunteer force of all armies. Others joined the Royal Australian Navy and, later, the Australian Flying Corps. Women volunteered as nurses, the only opportunity available for them to serve overseas.

Soldiers from the so-called country states—WA, South Australia, Queensland and Tasmania—were valued for their bravery and initiative. British army commanders designated the AIF, in particular volunteers from these four states, as frontline troops. So it was that Western Australians were part of the Third 'All Australian' Brigade chosen to make the landing below cliffs on what became known as Anzac Cove at dawn on 25 April 1915. The main British contingent, including a French division, landed at Cape Helles to the south. That morning some Western Australians and Tasmanians penetrated further inland than any other Australian or New Zealand troops during the entire campaign.

Western Australians fought their own desperate and audacious war. For the next nine months the Anzacs endured trench warfare battles for no particular gain, suffering injury, disease and death. On 21 December 1915 they evacuated the Peninsula with the rest of the British army, leaving behind 7,600 dead Australians. During the next three years the 10th Light Horse regiment from WA fought in Egypt, Palestine and the Sinai with other Australian light horse regiments. The majority of recruits faced unmitigated death, injury and devastation in filthy, rat-infested trenches on the Somme in France and in Flanders, where casualties dwarfed losses at Gallipoli. Australian-born WA countrymen in particular continued to volunteer in great numbers. Once again,

Western Australians were among the first AIF soldiers to fight against the Germans on the Western Front. During a week in July 1916 the AIF casualty rate, including WA units, rivalled the nine-month Gallipoli total. During 1916 and 1917 under British command, the battles Western Australians fought included Pozieres, Bullecourt, Zonnebeke, Broodseinde Ridge, Messines, Polygon Wood and the Third Ypres or Passchendaele—the latter synonymous with military failure. On 24 April 1918, Western Australia's Major-General Sir Talbot Hobbs, commander of the AIF's 5th Division of the Australian Corps, planned an attack on the German-held village of Villers-Bretonneux. This battle was regarded as one of the most decisive allied victories of the war and later became the site of Australia's main war memorial in France.

At home, in 1916 and 1917 referenda, Western Australians strongly favoured conscription for overseas service, contrary to the majority of Australian voters. As elsewhere, some WA women sent white feathers to men they believed were shirking their duty by not enlisting. Families endured years of stress, fearing a visit from a priest or later a telegraph boy bearing news that their loved ones had been killed or injured overseas. Women formed comfort funds, knitted, cooked cakes for their soldier boys and comforted each other. Many lived blighted, unfulfilled

Pay ledger card of John Simpson who became known as 'The Man with the Donkey' 1914–1916, from the collection of the National Archives of Australia (K1144)

lives caused by the carnage. 'Enemy aliens', subjects of the German and Austro-Hungarian Empires in WA, were imprisoned in detention camps on Rottnest Island and in Fremantle. Twenty-one per cent of internees at a concentration camp in New South Wales were from WA. Strict censorship laws meant that only lists of the dead and wounded in newspapers told the truth about what was happening on the battlefields.

After the war ended on 11 November 1918, Australians learned that they had the highest casualty rate of all British forces. The WA death rate in proportion to numbers enlisting was significantly higher than total AIF deaths. More than 6,000 Western Australians were killed and 15,900 were injured. Of those at the Gallipoli landing, only one in four escaped death or severe injury. The death rate among officers was particularly high, robbing the state of potential leaders. Western Australians had responded to war as they had responded to life in their homeland state: with enthusiasm, courage, and, ultimately, a resignation recognised forever in the sacred Anzac Day legend. **Suzanne Welborn**

See also: Anzac Day; Army; Conscription; Internment; Pacifism; Repatriation, First World War; Returned and Services League; Second World War; Victoria Cross (appendix); War memorials; Women, world wars

Further reading: F. K. Crowley, *Australia's western third: a history of Western Australia from the first settlements to modern times* (1960); B. Oliver, *War and peace in Western Australia: the social and political impact of the Great War, 1914–1926* (1995); W. Olson, *Gallipoli: the Western Australian story* (2007); S. Welborn, *Bush heroes: a people, a place, a legend* (2002); C. E. W. Bean, *Anzac to Amiens* (1983)

Fishing, commercial Western Australia's fishing industry has humble origins. In 1832 eight settlers were fishing, building their own boats. Thereafter, in the small, sparse, cash-strapped settlements, there was little demand for fish, and settlers, learning from Nyoongars, caught their own. After 1836 fresh meat and less perishable imported canned fish weakened demand for fish. From the 1840s to the 1890s merchant mariner Anthony Curtis sun-dried and salted snapper and dhufish at the Abrolhos Islands for export to Asia, and at Fremantle J. & W. Bateman dried snapper for export. At this time, canning was introduced at Mandurah, with mixed fortunes, using mullet, herring and salmon.

The 1890s gold strikes created population centres desperate for food. British t'othersiders brought their sailing boats, as deck cargo on steamers, to Albany to sell their catches in mining towns. At Fremantle, Sicilians, Molfettese and Austro-Hungarians swelled the owner-operator fishing fleet of wind-driven wooden sailing craft. Iceworks opened in Perth and Kalgoorlie, extending the shelf-life of fish to three weeks. After 1905, fast-sailing ice-boats operated at Shark Bay and the Abrolhos Islands in winter and from Fremantle in summer. In the 1930s land generators 'snap froze' fish, extending storage to three months.

After 1942 the Department of War Organisation invested in research and development of fish canning: crayfish at Geraldton, herring at Perth and salmon at Albany, where the Hunt family built up a large mechanised canning factory, despite being hindered by cheaper imports.

Increased ownership of refrigerators created a market for ready-to-cook fish fingers and frozen fillets. Rock lobster products expanded from canned tails, to 'quick frozen' raw tails; later, frozen whole-cooked and raw frozen and, in the 1980s, live lobsters were exported by air. The USA was originally the main market but by the 1980s most went to Japan and Taiwan.

The 1960s mining boom provided capital for investment in fishing, with shipbuilders providing motorised aluminium and steel

Fisherrmen bringing their catch at the bottom of Mill St Perth to sell to hawkers or the public 1899. Courtesy West Australian *(HIST 5551)*

boats and factory ships. Corporate fishing companies like the Greek Kailis family operated successful deep-sea tuna boats and prawn trawlers for the first time, making use of larger faster craft exploiting echo-sounders and later radar and GPS (global positioning system). At this time, a dualism developed between the capital-intensive high-value fisheries (the realm of corporate business) and smaller fin fisheries dominated by small family concerns that are frequently seasonal lifestyle industries with small profits. Affluence stimulated domestic and export trade in luxury seafoods, especially lobster, prawns, scallops and tuna. Value-adding and quality controls drove the industry. The Mendolia family introduced, in the 1980s, a boutique industry smoking and processing local anchovy and sardine products. Companies with greater resources explored for new fisheries: for example, Austral Fisheries discovered the valuable toothfish fishery in the Southern Ocean in 1994.

In 2004 the output of Western Australia's commercial fisheries was worth $553 million and WA accounted for about 60 per cent of Australia's total fisheries exports. Despite Australia having access to a 200-kilometre wide and nine-million-square-kilometre exclusive fishing zone, fish production is small by world standards due to low nutrients in the oceans, but species diversity is great. WA is a world leader in fisheries management, particularly rock lobster ($300 million per annum) and Patagonian toothfish

($25 million per annum). In 2000 Western Australia's rock lobster industry was the first in the world to be certified as a sustainable eco-fishery by the Marine Stewardship Council, when it was the world's second most valuable sustainable fishery. **Sally R. May**

See also: Blessing of the Fleet; Boat and ship building; Fishing, recreational; Food processing; Sealing; Whaling

Further reading: H. Gray, *The western rock lobster,* Panulirus cygnus. *Book 2, A history of the fishery* (1999); D. E. Hansen and I. V. Hansen, *The captain's grandson: the world of Michael Kailis* (1999); M. Tull, 'Profits and lifestyle: Western Australia's fishers', in F. Broeze (ed.), *Private enterprise, government and society. Studies in WA History*, 13 (1992)

Fishing, recreational Recreational fishing has long been a favourite pastime among the people of Western Australia. Angling formed one of a few hobbies regularly pursued by early European colonists, and with the economic and demographic boom of the 1890s came a surge of interest in the sport. By the turn of the century the Swan and Canning rivers, metropolitan beaches, and the jetties, bridges and harbour at Fremantle were all well visited by fishers, prawning and crabbing 'parties' were established as a summertime tradition, and visits to Garden and Rottnest Islands or the 'seaside resorts' of Rockingham, Mandurah, Bunbury and Albany had become common. As the years progressed the appeal of fishing was maintained across all sections of society, from schoolchildren hand-lining for herring or bream to the well-heeled 'sportsmen' who, in the 1920s, pioneered 'big-game' fishing in offshore waters and, in the 1930s, sponsored the acclimatisation of trout in the South-West.

Development of the North-West in the 1960s and beyond opened up a vast new area to recreational fishing, and so the sport's

popularity continued. Studies undertaken in the late 1990s showed that one in every three Western Australians went fishing, prawning or crabbing each year.

Under the state's first fisheries Act, effective from 1890, recreational fishers were required to observe the same schedule of minimum sizes as their professional counterparts. Within years the first conflicts between the two groups had broken out; and these conflicts intensified over coming decades, invariably resulting in increased restrictions on commercial fishing in estuaries, inlets and other locations favoured by anglers. From the late 1940s attention shifted to controlling recreational fishing itself: amateur netting, spearfishing, prawning, crabbing, marroning, crayfishing and abalone fishing all became subject to tighter controls in the 1950s and 1960s, while bag limits for many species were introduced between 1967 and 1975. Major reviews of recreational fishing in 1990–91 and 2001–02 led to further reductions of bag limits. The mantra of 'fish for the future' has come to be widely supported, and the natural beauty of Western Australia's coastline is now a major attraction of the sport, but the dangers of recreational fishing still persist. Every year brings its toll of anglers who are washed off rocks or out of boats, and drown. **Joseph Christensen**

See also: Acclimatisation; Aquaculture; Fishing, commercial; Marine environment; Rivers; Sharks
Further reading: J. Christensen, 'Where have all the fish gone? An environmental history of angling in south Western Australia 1890–1950', Honours thesis, UWA (2002)

Fitzroy Crossing, situated among some of Australia's largest cattle stations, dates from the late 1970s and has a population of around 1600. Up the river, Old Fitzroy Crossing dates from 1895. The locality's history reflects the government's efforts to provide accessible services where, until a high-level bridge opened in 1974, the huge Fitzroy River floods repeatedly closed the Derby–Halls Creek road.

With the MacDonald brothers having established Fossil Downs Station in 1886, the pastoral industry pre-dated the town. So too did a telegraph station built in 1890. The town came into being with the construction of a police station (1895), a wayside house that became the Crossing Inn (1897), and a post office (1907).

The current Fitzroy Crossing post office occupies the third site used for that facility, or, if the 1890 telegraph station is counted, the fourth site. Former post office and police station buildings survive at Old Fitzroy Crossing, where a memorial marks the ground on which the 1939 Australian Inland Mission Hospital stood. Between the old and new towns, Aboriginal art adorns the walls of the celebrated Crossing Inn. Further west, one passes the Junjuwa Aboriginal Community to reach land once occupied by another post office, linesman's quarters, and the United Aborigines Mission. **Cathie Clement**

See also: Frontier violence, Kimberley; Kimberley; Noonkanbah dispute; Pastoralism; Rivers of the Kimberley
Further reading: Kimberley Language Resource Centre, *Thangani Bunuba—Bunuba stories* (1998); S. McGinty, T. I. Jimbidie and P. G. Smiler, *Karrayili: adult education in a remote Australian community* (2000); H. Pedersen and B. Woorunmurra, *Jandamarra and the Bunuba resistance* (2000); R. H. Pilmer, *Northern patrol: an Australian saga* (1996)

Flats and apartments Flats and luxury apartments existed in Perth well before 1930, but not until the mid to late 1930s did this form of housing became a popular and affordable alternative to the traditional suburban home. Social factors contributing to the trend towards flat living included rising costs for new homes and, for the well-to-do, the shortage

of domestic servants. Renting a flat was particularly attractive to single city workers or childless couples who wanted time for leisure activities. However, flats were sometimes viewed as potential slums and a threat to the house-building industry. Flat-dwelling was also blamed for falling birth rates. Nevertheless, it was generally recognised that alternative forms of housing were necessary.

At the upper end of the market was the prestigious eleven-storey block Lawson Flats (1936–37) designed by Sydney architects Hennessy & Hennessy with Perth architect Reginald Summerhayes in association, on the corner of the Esplanade and Sherwood Court. Blocks of flats were also built along Perth's major transport routes and close to civic amenities and places such as The University of Western Australia, where flats appropriately named 'Eton', 'Winthrop' and 'Varsity' are still in use. While many architects designed flats, the practice of Harold Krantz became synonymous with the development of affordable flats of contemporary modern design. He and Robert (Bob) Sheldon designed 'Wandana' (1954) in Subiaco, the first of a number of blocks constructed by the State Housing Commission in Perth as a solution to the postwar housing shortage and in line with trends in public housing overseas.

Following the 1960s mineral boom, many flats in inner-city Perth were demolished to make way for high-rise commercial developments, causing the life of the city effectively to cease after working hours. This trend started to reverse during the 1990s with the conversion of office buildings and old warehouses into apartments, and with new apartments constructed in revitalised inner-city suburbs. With the high value of land on the Swan and Canning river foreshores and along the coastal plain, large apartment blocks offering river and ocean views have been a notable feature since the late twentieth century. **Robyn Taylor**

See also: Architecture; Built heritage; Housing; Perth; Suburban development

Further reading: J. Gregory and R. Taylor, 'The slums of tomorrow? Architects, builders and the construction of flats in interwar Perth', in *Private enterprise, government and society: Studies in WA history*, 13 (1992); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); M. Pitt Morison and J. White, *Western towns and buildings* (1979)

Flour mills Flour milling was the colony's most important and most widely dispersed early secondary industry. Before 1890 over a hundred mills were built. The early mills were usually powered by wind or horses. Windmills such as Shenton's Mill, South Perth (1835), and Cooper's Mill on the Murray River (1847) were built of local stone in the form of the traditional circular tower. Horse-mills, such as Clinch's Mill, Berkshire Valley (1847), and New Norcia Monastery Mill (1854) were two- or three-storey buildings in brick and stone. After 1850 most new mills were steam-driven, including Maley's Mill, Greenough (1859) and the Essex Street Mill in Fremantle (1863). After the introduction of steel roller milling in 1889, stone milling became obsolescent. Steam mills converted to rollers and large roller mills were built at transport centres, including Dongara, Katanning, York, Cottesloe and Northam (the oldest and largest). These multi-storey buildings have dominated their surrounding landscapes for over a century.

In 1945 there were still twenty-four mills in the state, all but a handful of which were in regional towns. After industrial rationalisation only four regional mills remained in 1968: at Geraldton, Katanning, Narrogin and Northam. Currently five mills supply domestic needs and export markets, two being the large old mills at Northam and North Fremantle, and the other three being new ones in the metropolitan area. **Richard G. Hartley**

See also: Food production, suburban; Wheat
Further reading: E. Lang, *Grist to the mill: a history of flour milling in Western Australia*

(1994); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

Folklore and folk life are the informal and unofficial practices and expressions found in the traditions of all social groups. The terms cover a wide range of forms, including song, music, dance, story, custom, belief, food, costume, drama, games, poetry, speech, art, craft and architecture.

Folk music in WA was historically derived from British folk traditions, folk traditions of migrants speaking languages other than English, from popular music and from fusions between these and Indigenous musical traditions. Folk music of migrant groups was mainly for social dancing, while a good deal of Aboriginal music was ceremonial. Increasingly, all such continuing traditions have been influenced by a variety of musical genres transmitted through the mass media, including sound recordings, sound film, radio and television.

The earliest surviving WA folksongs date from the early 1850s when the arrival of transported convicts generated a parody of 'The Campbells Are Coming': 'The convicts are coming—oho! oho!/What a curse to the Swan! What a terrible blow!' while the escape of a group of Fenian transports aboard the American whaler *Catalpa* in 1876 stimulated a rousing ballad, still sung in Australia and Ireland.

The resource rushes of the late 1880s and 1890s produced songs about gold and the exploration of the North-West, including 'Going to Kimberley', 'The Returned Digger' and 'To the West', often on the theme of disappointed dreams and fake goldmine shares.

The unprecedented nature of mass mobilisation in the First World War produced the boastfully regional 'We've Just Blown across from the West (And we're all forty-two round the chest)' as well as soldier parodies of hymns and popular songs, a tradition that

continued into the Second World War and the Vietnam War (1965–72). The arrival of large numbers of relatively affluent American troops after 1942 sparked a degree of sexual jealousy and generated a number of songs on this theme. A WA version of a song called 'The Digger's Hymn' (to the tune of 'The Marine Hymn') opened with a verse lamenting that the 'Aussie girls' have 'gone completely mad on the twerps from the USA…'

As well as locally originating song, verse and music, folklorists have collected versions of the common stock of Australian bush songs, British ballads, children's ditties, work songs and lyrical songs. There are also extensive bodies of traditional song and verse among groups whose first language is other than English.

A great many songs also exist in folk tradition as poems (and vice versa), and the composition and recitation of verse, particularly in the bush ballad style, is still a widely practised folk art in the state, as it is elsewhere in Australia.

The folksong revival of the 1960s stimulated the performance of folksongs and verse at folk clubs, concerts and festivals as well as the recording and broadcast of folksong. A number of folk music collections are preserved in the State Library and the National Library of Australia and there is academic study of the field at Curtin University of Technology, where the WA Folklore Archive is located.

WA folk tradition has a full range of arts and crafts, including bushcrafts like whip-making and other forms of leatherwork, domestic skills (embroidery, knitting, sewing, cooking, etc.) as well as occupational skills associated with industries such as timber getting, mining, transport, fishing, agriculture and pastoralism.

Folk buildings found in WA include those specific to the south-west timber areas, a variety of vernacular architecture, including colonial farmhouses, outhouses, and, of course, the traditional 'dunny' (outside toilet). Much material culture is of the 'making do'

variety and consists of commercially available items such as 44-gallon drums and packing crates, adapted to a variety of domestic, cottage industry and other purposes.

The state is rich in legends of how places received their names, of colourful characters such as the good Samaritan gold-seeker Russian Jack, bushranger Moondyne Joe and the gauche publican Tom Doyle, among many others. It also has substantial bodies of ghost lore, occupational stories, migration stories (in many languages), bush yarns, Aboriginal narrative, humorous anecdotes, jokes and 'urban myths' of all kinds. While many of these stories are also told in other parts of the country (a characteristic of folklore), they are usually localised in their WA renditions.

Calendar customs (such as Hallowe'en, Melbourne Cup Day, Christmas in July and Valentine's Day) are widely observed, as are those celebrations and festivals specific to folk groups and/or places, such as the Fremantle Blessing of the Fleet, Broome's *Shinju Matsuri* and a host of lesser-known observances usually associated with the non-Christian calendars. 'Chinese New Year' (the Spring Festival) is the best known of these celebrations. Such events are often subject to greater or lesser levels of commercialisation, though there are many occupational customs such as log chops, races and competitions that are relatively restricted to the regional, occupational or other folk groups that sustain them. Life-cycle customs are common to all cultures and revolve around observance of birth, coming of age, marriage and death. A recent and growing commemorative custom—also seen throughout Australia and elsewhere in the world—involves the many roadside shrines for the victims of road accidents, providing a good example of the way in which folk traditions are continually adapting to new circumstances.

A multiculturally rich array of folk beliefs, or 'superstitions', are current in the state. These are mostly associated with luck, curing or avoiding ailments and predicting the future, as in what the weather will be like, the sex of an unborn baby, and perhaps the identity of one's future partner. Folk medicine includes a vast array of traditional cures and preventatives for ailments of all kinds, from the common cold to removing warts.

As elsewhere, the lore of childhood includes games (such as 'skippy', 'elastics', 'hoppy', marbles), counting-out rhymes ('one potato, two potato…'), play rhymes, ditties and beliefs transmitted through the intergenerational playground. Jokes and scary stories are an integral aspect of child and adolescent lore.

The state has a considerable range of words and terms that are peculiar or unique to it, including 'polony' ('fritz', 'devon', Windsor sausage elsewhere), 'ging' (Shanghai), Bine (British migrant), 'honky nuts' (gumnuts), 'boondie' (a soft rock), and 'Cockeye(d) Bob' (a small whirlwind, also used in the Northern Territory). WA folk speech includes the Australia-wide use of the affectionate diminutive in such forms as 'Freo', 'Rotto', 'Subi' and 'Kal', among many others. Adaptations from Indigenous languages are also found, including 'pedong' (a desert Aborigine), 'munjong' (newcomer) and 'yandying' (gold panning),

Folklore is carried in less tangible forms of attitudes and values. Often these revolve around unspoken but powerful notions of family, ethnic, regional and state identity. In WA there is a strong sense of folk identity related to being a 'sandgroper' and most definitely not being an 'eastern stater', or 't'othersider', a term that was common until relatively recent times. **Graham Seal**

See also: Aboriginal languages; Blessing of the Fleet; Bushrangers; Chinese New Year; Convicts; Fenians; First World War; Ghosts; Isolation; Languages of migration and settlement; Sandgropers; Second World War; Shinju Matsuri; Vietnam War

Further reading: G. Davey, G. Beed and G. Seal, *A Guide to Australian Folklore* (2003); V. Hobson (ed.) *Across the Board*: *Stories of*

Western Australian shearing as told by the people who worked in the sheds (2002); J. Lacy, *Off-Shears: The Story of Shearing Sheds in Western Australia* (2002)

Food labels Western Australia has been the home of a number of innovative food manufacturers and their iconic brand labels over the last century, though many have now gone. The Swan Cake and Biscuit Factory, established by William Mills and Henry Ware in 1899, became Mills and Ware Biscuits Pty Ltd in 1904. Famous for Nice Biscuits and the Derby Cake, Mills and Ware built up overseas exports after the 1930s Depression and grew strongly in the postwar era. However, Arnotts secured a controlling interest in the company in 1952, changing the name to Arnotts, Mills and Ware in 1973. Returning to local ownership in 1992, it was then acquired by Australian company KH Foods in 2004, which continues to market the brand. Plaistowes Confectionery Company, established in the 1890s by Hugh Plaistowe, also maintains a significant place in the state's food industry. Famous for the Choo Choo bar and gold medal cooking chocolate, the firm was eventually sold to NSW company Life Savers in 1974.

A flourishing soft drink industry began in the 1890s, but little remains of these companies apart from brands such as Weaver and Lock. Founded in South Perth in 1919, Weaver and Lock (famous for Keg Ginger Beer) was sold to Wrights Prospecting Firm in 1978 and moved to Canning Vale. The company was later sold to Lion Nathan and Pepsi in 1991, when operations appear to have ceased.

Dairying has played a key role in the development of the state's food industry. In 1908 South West Cooperative Dairies Ltd began operations, becoming Sunny West Cooperative Dairies Ltd in 1954. By then they handled 40 per cent of the state's milk production and manufactured butter and cheese products in factories throughout the South-West. In 1971 Sunny West was forced to merge with Masters Dairy, which, in turn, was acquired by National Foods in 1995. Brownes Ltd, established in 1915, was another significant name in the state's dairy industry. Producing milk and cheese, Brownes also introduced yoghurt, flavoured milk and Yogo desserts to WA. Peters Ice Cream (WA) Ltd, beginning in 1929 as the Peters American Delicacy Company (WA), brought Western Australians their first ice creams on a stick and the popular Drumstick, Hazelnut Roll and Giant Sandwich ice creams. Peters and Brownes established The Brunswick Creamery Co. Pty Ltd in 1949. Peters acquired it in 1953 and bought Brownes in 1962. Renamed PB Foods Ltd (1997), their products are now distributed globally. New Zealand group Fonterra Cooperative Foods Ltd has owned them since 2001.

Not all the state's iconic brands have left local ownership. Anchor Foods was established as G. Wood, Son & Company in 1891 as a distributor. It moved into food manufacturing in the postwar years, with Lighthouse and Sunflake products among the range. Becoming Anchor Foods Ltd in 1966, the company was acquired by Uncle Toby's in 1989. In 2002 the company returned to Western Australian ownership and diversification has revived sales.

Despite the effects of globalisation, the state's food industry remains open to innovation, and local manufacturing continues to be nationally and internationally viable. **Anna Kesson**

See also: Dairying; Food processing; Manufacturing
Further reading: M. Cullity, *A history of dairying in Western Australia* (1979); M. Dawson, *The history of the development of Mills and Wares Biscuits Pty. Ltd.: from its beginning in 1897 to the present day* (1968); J. Lee, *The sign of the anchor in the west: the story of G. Wood Son and Co. (W.A.) Pty. Ltd. and Anchor Foods Pty. Ltd. Western Australia from 1891 to 1979* (1979); P. Pendal and K. Davey (eds), *South Perth: the vanishing village*

(2002); Peters Ice Cream (W.A.) Limited, *Peters & Brownes, 1886–1986: the first 100 years* (1999); C. Polizzotto, *The factory floor: a visual and oral record, 1900–1960* (1988)

Food processing Foodstuffs were Western Australia's first manufactures. In the earliest form of food processing, Aboriginal people living in drier areas ground seed for cooking and, later, early colonists used hand mills to grind wheat for flour to bake bread. Aboriginal people also processed zamia seed by soaking, burying and sometimes cooking it to leach its toxins before eating. Colonists dried fruit, particularly figs, and made butter and cheese. Meat processing began with salting beef and pork and, less commonly, smoking to cure bacon. An export trade in hides and skins was a by-product of this slaughtering for meat.

Beer brewing was another early domestic manufacture, promoted as 'a healthy and nutritious beverage for the labouring class' to counter the drinking of spirits. These foods were initially traded by barter. From the 1850s, farms began to move from subsistence towards more specialised, market-driven production, selling their processed foods to the growing town populations, commerce facilitated by the spread of railways from the 1880s.

Commercial food processing began with flour mills and bakeries in the 1830s and breweries in the 1840s. William Shenton built the colony's first flour mill at Fremantle in 1830. Small flour mills owned by sole proprietors employing small workforces on a seasonal basis proliferated in all wheat-growing areas. They supplied their local markets, high transport costs shielding them from outside competition. Steel roller milling, which replaced stone milling in the 1890s, produced a finer whiter flour appealing to customers and hastened the demise of small local mills, many of which had already closed with the arrival of the railway which carried cheaper and often better quality flour from larger regional mills situated at rail junctions.

Eighteen flour mills survived into the twentieth century, twelve of them roller mills; but not until the 1930s did metropolitan mills exceed rural mills in number and production. A multitude of small bakeries served their local customers for an even longer period, the perishable nature of their products protecting them from competition from larger metropolitan and regional bakeries until the 1960s, when rapid road transport began to erode this local advantage.

The smallness of the domestic market discouraged further food-processing ventures until the last decades of the nineteenth century. The huge population influx during the 1880s–1890s gold rushes provided an immediate incentive to new manufacturing, although it often proved impossible to compete with well-established Victorian manufactures, and most of the canned goods—meat ('tinned dog' to the diggers), vegetables, fruits, jams, butter, milks and sauces—that sustained the diggers were imported from the eastern colonies. Bakeries proliferated on the goldfields, following the diggers from rush to rush, and both breweries and aerated (carbonated) water factories sprang up in every significant gold town, high transport costs for bottled commodities ensuring the market for these local enterprises.

In the prosperity of the 1890s many new food-manufacturing firms established themselves in the metropolitan area, on the goldfields and in other regional centres; for instance in the town of Northam, well positioned on the rail line between Perth and Kalgoorlie. These firms were small-scale enterprises, locally owned by sole proprietors or family partnerships. The largest factories, such as Trefusis, Chapman and Jose (established in 1875) in Geraldton, produced beer, cordials 'of all descriptions' and other soft drinks. Sweetened and fruit-flavoured carbonated drinks had become very popular by the close of the nineteenth century and demand was strong for lemonade, ginger beer, soda and tonic water. Golden West in Leederville, Perth,

and W. Letchford in Fremantle were among those in the metropolitan area that catered to this market. Manufacture of biscuits and cakes became established, most notably the products of Mills & Ware in South Fremantle (established in 1898). Confectionery and chocolates also found a ready market, Plaistowes sweets becoming popular. Demand for ham, bacon and smallgoods increased and Watson's Stores, which began as luncheon rooms in Fremantle in 1895 before establishing an abattoir and smallgoods production at Spearwood in 1909, was one firm which successfully filled this niche with its Watsonia products.

In the first half of the twentieth century government determination to develop the state by promoting agricultural development led to new manufacturing ventures to process the new farm products. Most importantly, with the interwar establishment of a dairy industry, butter and cheese factories opened in many South-West country towns, the largest enterprises being those of Brownes (at Brunswick Junction), Nestlés (at Waroona) and the South-West Cooperative Dairy Farmers (at Harvey). The introduction of milk pasteurisation was an important processing change of the period. Peters American Delicacy Co. made ice cream from 1929 and Nestles condensed milk from 1932. Fruit and vegetable canneries were established in the South-West, while fish canneries, which were first established in the state in the 1880s, opened in the 1940s in south-coast towns. Jams and pickles began to be commercially produced. The development of an orchard industry encouraged jam and fruit canning as well as dried fruit production, the last especially in the Swan Valley. Wescobee Honey, established in 1926 by the beekeepers' cooperative, became another popular local product. So too did the vegetarian food products, particularly breakfast cereals and spreads, produced by Sanitarium Health Food Co. at its factory at Carmel, Perth, from the 1930s. State encouragement saw Colonial Sugar Refining Co. set up a sugar refinery at Mosman Park in Perth in 1928 and, to foster

the Kimberley pastoral industry, the government opened the Wyndham State Meat Works in 1919, producing frozen meat for export. Encouraged by government and sustained by relative isolation, many local firms became household names. The WA market was nevertheless a challenging one for these local manufacturers because the phasing out of interstate customs duties in the first five years of the new Commonwealth (1901–06) meant that eastern states commodities often undercut their local competition in price, despite added transport costs, because of economies of scale in production geared for larger eastern-states markets. The state government ran recurrent 'Buy West Australian' campaigns to promote local sales by appeals to state patriotism. The depressed economic circumstances of the interwar years, however, limited demand and curtailed manufacturing growth.

The success of local food processing peaked in the mid twentieth century. Rising prosperity and accelerating urbanisation, together with the new supermarkets and more pervasive advertising in the 1950s and 1960s, encouraged the modern housewife to buy more processed food and rely less than her mother had done on Vacola home bottling of fruit and vegetables, and home-made jams, pickles, sauces, biscuits, cakes, confectioneries, sweet ices and ice creams. Plant modernisation increased output to meet the rising demand. As well, export markets were

Women cutting cabbages at Plaistowes' Canning Works during the Second World War, December 1943. Courtesy West Australian *(PP4016)*

sought. Larger abattoirs began to export fresh, chilled and frozen beef, veal, mutton, lamb and pork. At the same time, global capital and market pressures were increasingly felt by local enterprises, and takeovers of locally owned firms by larger Australian and foreign companies resulted. For instance, the NSW firm of Arnott's secured a controlling interest in Mills & Ware in 1952 and Watsonia was purchased in 1965 by George Weston Foods, itself a wholly-owned subsidiary of the British company Associated British Foods. The lowering of import duties from the 1960s also opened the local market to processed food from overseas while the increasing market dominance of large supermarkets, notably Coles and Woolworths, and their introduction of generic home brands, further eroded the position of smaller local enterprises. In many cases, plant closures followed. Some enterprises did hold their own and grow larger; for instance, Watsonia's pork products not only remained popular in WA but also established Asian markets. Peters expanded and bought Brownes in 1962. The ice creams, cheeses, yoghurts, creams and flavoured milks of the Peters and Brownes Group found national and overseas as well as local markets. The group's changing products reflected changing customer demand: butter's decline and the rise of low-fat products as well as ever-greater choice of varieties within the basis product range. A few new enterprises succeeded in the new environment. Harvey Fresh, based in the long-established South-West orchard area of Harvey, began successful fruit juice production in 1986, supplying juices for both the domestic market and for export.

Small-scale local production of processed foods has re-established a market since the 1980s. Growing environmental awareness, together with concern about the possible adverse health outcomes of food additives and heavy sugar and saturated fat consumption, have led to renewed support for fresh local products and local markets as well as a new interest in organic foods. A wide range of processed foods (breads, biscuits, cheeses, honeys, jams, confectioneries) has found a place at these local markets alongside vegetables and fruit. This niche market has mostly catered to the health-conscious and more affluent of customers, its higher prices currently a disincentive to a larger market share. **Lenore Layman**

See also: Diet; Fishing, commercial; Food labels; Manufacturing
Further reading: P. Firkins (ed.), *A history of commerce and industry in Western Australia* (1979); R. G. Hartley, *Industry and infrastructure in Western Australia 1829–1940* (1995); E. Lang, *Grist to the mill: a history of flour milling in Western Australia* (1994); C. Polizzotto, *The factory floor: a visual and oral record, 1900–1960* (1988)

Food production, suburban Generations of Western Australians have been familiar with suburban food production. In the nineteenth and early twentieth centuries the suburbs were home to countless poultry, goats and cows, the latter often grazing on local reserves. After the First World War, as middle-class councils and residents attempted to beautify their surrounds with street trees and gardens, suburban goat and cow-keepers increasingly faced licence fees, impoundment and prohibition of stock. Hens or 'chooks', however, remained popular for decades, still being kept by an estimated 17 to 25 per cent of Perth households in 1963. For home gardeners, food production was variously a symbol of self-reliance, a source of 'fresh and healthy' food, and a means of stretching the family budget. It also played a role in disposing of urban wastes. Up to the 1940s, many vegetable gardeners relied on manure from delivery horses or local stables; as automobiles increased in popularity, so too did composting and bagged manures. During the Second World War, in anticipation of shortages, Western Australians were urged to 'grow their own' vegetables. After the war, many

migrants from Europe continued long traditions of food cultivation, often in front yards as well as back. Postwar slabs and swimming pools never entirely displaced the vegetable patch, but in the 1980s and 1990s home food production appeared to undergo a renaissance. In 1992 home gardens around the state produced 11,832 tonnes of vegetables, 9,682 tonnes of fruit, and over 41 million eggs. Food was also produced at the community gardens established in the 1990s, including the East Perth City Farm. **Andrea Gaynor**

See also: Agriculture; Communities, intentional (alternative); Dairying; Horticulture; Livestock; Suburban development; Town planning

Further reading: A. Gaynor, *Harvest of the suburbs: an environmental history of growing food in Australian cities* (2006)

Forestry Western Australia's tall native forests are confined to the South-West, although huge areas of woodland occur in the southern rangelands and the Kimberley region. In the South-West the forests are dominated by *Eucalyptus* species. Jarrah and karri are among the world's finest and most versatile timbers. The state's forests are supremely well adapted to the tough climate, infertile soils and periodic bushfires, and are a biodiversity treasure trove of plant and animal species while protecting important water catchments.

Aboriginal people occupied the forests, reducing the undergrowth and accumulated leaves and litter by burning. They hunted game and gathered forest-floor plants. Aboriginal people had well-trodden paths through the forest and there is archaeological evidence for their occupation.

Forestry is today practised in the 1.9 million hectares of state forest and timber reserves, small areas of private forest, and in both public and privately owned plantations. Plantations of exotic softwoods have been established by the state since the 1920s and

now are a major source of timber for housing. Hardwood plantations have expanded rapidly since the 1990s, especially in the Great Southern region, where they are being grown for pulpwood and paper manufacture, and in parts of the agricultural area for eucalyptus oil production and salinity control.

Scientific forestry (based on central-European models) did not begin in WA until the early 1920s. Until then, forests were regarded mostly as a hindrance to agriculture, or as a source of timber to be 'mined out' before agriculture commenced. A large timber industry developed during the nineteenth century, producing timber for export and for the development of the state, especially for railway expansion in the Wheatbelt, and for wharves, mines and housing. Initially there were few constraints, and no systematic regeneration of cut-over forest. The state's first trained forester was John Ednie-Brown, Conservator of Forests 1896–99. Following his premature death, he was not replaced until the professionally trained forester Charles Lane-Poole was appointed Conservator of Forests (1916–22). Lane-Poole oversaw dramatic changes, including the passing of the *Forests Act 1918* and the formation of the Forests Department charged with responsibility for conservation and protection of the state's forests. The term 'conservation' then meant the sustainable use of natural resources; 'forest conservation' thus included timber cutting, provided forests were subsequently regenerated and regrowth forests protected, a basic tenet of forestry. Early forest management also recognised the value of forests for water catchment protection, as most of the main catchment areas for urban and goldfields water supplies were also state forest.

Under the professional leadership of Lane-Poole and, later, Stephen Kessell (Conservator of Forests, 1923–41), formal processes of forest management were progressively introduced. These included forest survey, inventory and mapping, establishing district administration centres, recruiting professional foresters,

appointing and training field staff, setting up systems to control timber cutting, programs of forest regeneration and fire protection, and research into botany, nutrition and pine plantations. Programs of wildlife conservation and community education on the value of forests were conducted. The need to manage forests so that they could sustain multiple values (water catchments, timber supply, nature conservation, recreation and aesthetics) in perpetuity was formally enshrined in forest policy and management plans from the 1970s.

Forestry in WA has always had to contend with three major threats: bushfires, disease and loss of forest through agriculture or mining. Severe forest fires were prevalent from early in the twentieth century and up until the 1950s, culminating in 1961 when massive fires ravaged the forests and burnt out three towns. Following a Royal Commission into the fires (1961), there were significant research efforts and changes to policy and management, notably the development of broad-acre prescribed burning for fuel reduction. The prescribed burning programs adopted by the Forests Department had a significant impact on reducing the impact of forest fires for the next thirty years.

'Jarrah dieback', *Phytophthora cinnamomi*, is a disease that kills many plants in the forests, woodlands and heathlands of south-west Australia and in many countries around the world. Caused by a microscopic soil-based water mould it was brought to the colony with horticultural plants soon after European settlement. Although there are fungicide treatments that can help plants to resist the impact of infection these are not applicable on a forest-wide basis. Since the early 1980s the spread of the disease has been limited by quarantine and hygiene measures.

Loss of forest to agriculture ceased after about 1970, but in the mid 1960s open-cut mining for bauxite had commenced in the northern jarrah forest. This results in the permanent loss of the forest. Thousands of hectares of jarrah forest have been destroyed by bauxite mining, an operation continuing to this day.

From the mid 1970s a new public interest in forest recreation, worldwide concerns about the environment, and the opening of Japanese markets for woodchips, resulted in opposition to clearfelling and the use of marri and karri logs, which were unsuitable for production of sawn timber for production of woodchips (pulpwood) for paper manufacture. Many people were concerned that the forests would not be regenerated after logging. This led to an acrimonious political and community debate about forestry goals and priorities, culminating in new government policies associated with the election of the Gallop government in 2001. The new policy ended timber production from 'old-growth' and many regrowth native forests. The fundamental aim of forest management today is 'protection of biodiversity', an aim which is seen by modern forest managers as excluding timber production.

In 1985 the Forests Department was amalgamated into a new agency, the Department of Conservation and Land Management (CALM), with responsibility for forest, national park and wildlife management. CALM was split in 1999 so that it no longer had a role in growing and harvesting timber or in the management of forests for sustainable timber production. This role was given to the new Forest Products Commission. Forest management planning and policy is in the hands of the WA Conservation Commission, an independent body for whom CALM (now the Department of Environment and Conservation) carries out forestry management. **Roger Underwood**

See also: Aboriginal firing; Bushfires; Conservation and environmentalism; Environment; Jarrah dieback; Timber industry; Water management

Further reading: J. R. Robertson, *The origins of forest administration in Western Australia 1829–1929* (n.d.); R. Underwood and

J. Bradshaw (eds), *Conservation and use of Western Australian forests: the perspectives of WA foresters* (2000)

Foundation and early settlement Even before he visited Swan River in 1827, James Stirling had proposed that a British colony be established there. It would not only thwart French intentions to gain a foothold on the un-annexed western side of the continent but, on the basis of his 'professional observation', the site had significant economic and political advantages. Vessels could utilise favourable winds to trade with countries in the Indian Ocean, a naval station established there could protect British interests in the region, and a convalescent station could service troops and civil and military servants stationed in India. It could also be a port-of-call for tea clippers bound for China. Accompanied by Charles Fraser, Colonial Botanist in New South Wales, Stirling's visit in 1827 was made to resolve two 'unanswered questions': did Swan River possess sufficient fertile soil and fresh water, and did it have safe anchorages for merchant and naval ships?

In their separate reports to Governor Darling of New South Wales, Stirling and Fraser gave positive responses to the two questions, even though they spent less than three weeks at Swan River in March 1827, travelling upstream to present-day Ellenbrook, made short excursions towards the foothills and arranged for desultory surveys to be made of potential anchorages outside present-day Fremantle. Governor Darling sent their reports, together with his supporting comments, to Lord Bathurst at the Colonial Office, whose initial response was not to support the proposal. However, the reports were sent to John Barrow, secretary of the Admiralty, regarded as one of Britain's most knowledgeable and influential public servants on colonial affairs. While Barrow initially questioned the credibility of Stirling's arguments based on 'professional observation', he acknowledged that the reports on their visit suggested that the Swan River area contained all the elements required for a settlement. Doubting the need for another settlement in the antipodes, Barrow argued that its only justification was political: to prevent the French or the Americans from getting a foothold on the continent.

On his return to England, James Stirling, unfazed by the setback, set about trying to persuade politicians and officials to change their minds. His campaign was facilitated by recent major political changes that saw Sir George Murray appointed to the Colonial Office portfolio and Horace Twiss appointed political under-secretary. Both were friends of Stirling, who had returned to London during the very month (May 1828) of their appointments. At the official level, the permanent under-secretary, Robert Hay, had a reputation for 'going straight to a decision'. Stirling soon realised that Hay and Barrow were the key officials to persuade. It appears that Barrow in particular was greatly impressed by Stirling's presentation and by October 1828 was persuaded that a settlement should be established at Swan River.

Expense, declared Barrow, was the only obstacle. But Stirling had also covered that ground. In association with Major Thomas Moody, he put forward a scheme under which the settlement would be established through private capital. Soon after, a group of four men, including Thomas Peel, proposed an imaginative scheme under which 10,000 migrants and provisions, 1,000 head of cattle, and three small vessels for trading between the colony and Sydney, would be provided in return for a grant of land in proportion of one acre for every one shilling and sixpence expended. On the basis of the amount that the group were prepared to invest, they would have received a grant of four million acres (1,620,000 hectares). Although their specific proposal was rejected, the maximum grant being reduced to 250 million acres (405,000 hectares), the idea had clearly been supported in principle.

Pamela Statham has suggested that the confidence the group had displayed in the potential profitability of the scheme appears to have persuaded the British government that existing land grant policies could be adapted to form a feasible and inexpensive basis for the foundation of a purely private enterprise-based colony at Swan River. Conditions of settlement were therefore aimed to minimise government expenditure, attract private investors, and avoid the problems of speculation and absenteeism. Private settlers could also be involved by the offer of forty acres of land for every three pounds they invested in the type of physical assets considered applicable for land use, and 200 acres for every adult labourer (and smaller amounts for children) they took to the colony. To prevent speculation, title would be withheld until the grantee had improved *every* acre by value of at least one shilling and sixpence by means of cultivation, fencing, etc., within ten years.

The scheme attracted so much interest in England as to be dubbed 'Swan River mania'. The pioneer group that responded was young, predominantly male, and mainly from southeast England. Prior to their departure in *Parmelia*, which was accompanied by *Sulphur* with members of the sixty-third regiment, the government sent Charles Howe Fremantle in *Challenger* to claim the un-annexed territory, await the arrival of settlers in *Parmelia* and assist with their re-settlement.

Parmelia rounded Rottnest Island on 2 June 1829, and headed for Cockburn Sound, which Stirling, who had been appointed Lieutenant-Governor of the new colony, had described in his 1827 report as 'at all times perfectly Secure and available for Vessels of the greatest dimensions'. However, *Parmelia* ran aground on a bank and was seriously damaged. Some settlers were taken to Carnac Island, others to Fremantle's vessel *Challenger.*

The settlers regrouped on Garden Island where the huts and equipment they had brought from England were offloaded. Stormy winter conditions delayed their transfer to the mainland for several weeks. Meantime, other vessels with settlers arrived in quick succession. Masters either unloaded passengers and cargo at a camp near Fremantle or on beaches north of the entrance to the river, where settlers erected primitive camps. Several hundred men, women and children had to be sheltered in makeshift accommodation.

Once onshore, the settlers' entitlements to land were evaluated (on the basis of the formula outlined above), and the Lieutenant-Governor then decided on location. Initially, lots were located along the upper Swan and Canning rivers and, because river transport was the only mode available, each lot was shaped to include a river frontage. The initial lots were therefore long, road-shaped pieces stretching from both sides of the rivers. However, as James Cameron has shown, the fertile land that Stirling had seen in 1827 extends only a short distance from the riverbanks, so large proportions of the road-like lots were in less fertile parts. Furthermore, because the amount of land available along the rivers was nowhere near sufficient to meet settlers' entitlements, the Lieutenant-Governor was forced to organise explorations across the Darling Ranges to search for new agricultural land. Toodyay and York became new areas for settlement. Some settlers were allocated land in both the Swan/Canning and York/Toodyay areas.

The 450 settlers who had arrived under the Peel scheme faced similar difficulties regarding fertility of soil in the Clarence/Rockingham area. In mid 1830, after widespread illness and some twenty-eight deaths, many of Peel's servants walked to Fremantle with desperate pleas for assistance. Within a short period, frustrated settlers in all parts of the new colony had become highly critical of what they believed had been misrepresentation in the Stirling and Fraser reports, and Barrow's conjectural expectations based upon these reports—for example, 2,430,000 hectares from north of Swan River to King George Sound, the greater proportion of

which was fit for the plough. By 1831 there had been 1,178,000 acres granted, but only 200 acres were under cultivation. Settlers could not grow enough food for their needs, merchants were charging excessive prices for basic commodities, and there was considerable unemployment. Furthermore, the safe anchorages that Stirling claimed to have found in 1827 were found wanting in a storm during August 1829, when the *Marquis of Anglesea* was blown onto rocks at Fremantle and wrecked, *Calista* lost three anchors, and *St Leonard* was seriously buffeted.

Letters from settlers containing news of these difficulties reached London on 25 January 1830 and, while Stirling's official report, claiming that the colony was in a generally prosperous condition, arrived two days later, the damage (as Ian Berryman shows) had been done. Swan River mania abruptly subsided; voyages under preparation and planned to reach the colony during the winter months were delayed, and others scheduled to leave in 1830 never called there. Potential emigrants and ship owners were now in accord: the new colony offered neither adequate fertile soil to support a large population nor safe anchorages for vessels.

For the next three years the colony's net gain of population through migration was negligible; indeed, some of the first settlers moved to other Australian colonies. Adverse economic conditions forced many settlers to release their indentured workers. Stirling remained confident that teething problems would be resolved in due course. During November 1829 he had laid blame for the colony's difficulties on 'complainers' who were of no value, should never have emigrated and would be ruined by their own groundless expectations. They were 'outcasts from the parishes', who were undermining the small number of adaptable landowners and professional men. By April 1832 his criticisms had mellowed somewhat, and while many settlers had achieved little or nothing, 'they find their life in this Colony preferable to that which they left'.

Relations with Aboriginal people during this period remained tense. Cultural differences were so great that, with few exceptions, settlers were repulsed by the Aboriginal way of life, and convinced that at the first opportunity they would be attacked. The death of one of Peel's overseers, and frequent skirmishes, led finally to the infamous Battle of Pinjarra, to which Stirling himself led a detachment of troops and settlers. Though reports vary, at least fifteen Aborigines and one white man were killed.

Following a British Act of Parliament in May 1829, Stirling was appointed Governor in March 1831, although news of this did not reach the colony until the end of 1831. Deteriorating economic conditions led Stirling to return to London in August 1832 to try to arrange a new deal. A major reason for the situation, he argued, was dearth of cash. Land-grant conditions had encouraged settlers to bring items that qualified for land allocation. Cash did not; but it was clearly needed during the early period when land had to be cleared and brought into production and to sustain what Pamela Statham called 'a functioning exchange economy'. This led many settlers to seek loans and grants from the Lieutenant-Governor, who was unable to accommodate them.

On reaching London, Stirling sent Hay a long and important letter. It not only set out the nature and extent of the colony's problems, but also implied that a large share was the result of the British government not having shouldered its responsibilities. Lacking this official backing, Stirling argued, the colony could not be fully explored, and its government had neither sufficient authority to preserve peace and justice, nor clear instructions concerning expenditure. Indeed, Stirling's letter articulated quite explicit action required of the British government. Hay, of course, refuted the criticism. Not only had the government given the colony its support, but it had no intention of changing policy to alleviate the settlers' plight. In

disagreeing with Hay that the government had supported the colony, Stirling responded that if he had known at the time the nature and degree of support to be provided, he would never have accepted appointment as Lieutenant-Governor. He appealed to Lord Goderich, the Colonial Secretary, who, in his letter of reply dated 8 March 1833, essentially restated Hay's arguments regarding the government's role in establishing Swan River colony. More disappointing and serious for Stirling, however, was the government's refusal to play a leading role in alleviating the colony's economic difficulties.

Stirling returned to Swan River, arriving at King George Sound on 23 June 1834, with little to show the settlers from his strenuous efforts in London on their behalf. The colony survived, of course, but its chances for achieving the kind of grandiose outcomes depicted in London during 1828 were always slender. Dearth of exploration prior to colonisation, hurried inception to thwart perceived French intentions, lack of appropriate skills and experience of the pioneer group, and failure to foresee the impact of a settlement scheme that discouraged pioneers from taking an adequate supply of cash, were among the main factors that had created Swan River's dire economic situation within just four years of the arrival of *Parmelia* on 2 June 1829. **Reginald Appleyard**

See also: Annexation, acts of; British maritime exploration; Dutch maritime exploration; Foundation Day; French maritime exploration; HMS *Challenger*; HMS *Parmelia*; HMS *Success*; Peel settlement scheme; Swan River mania
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); I. Berryman (ed.), *Swan River letters* (2002); J. M. R. Cameron, *Ambition's Fire* (1981); A. Hasluck, *Thomas Peel of Swan River* (1965); P. Statham-Drew, *James Stirling: admiral and founding governor of*

Western Australia (2003); P. Statham, 'Swan River colony 1829–1850', in C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Foundation Day, 1 June 1829, is celebrated in Western Australia as an annual holiday on the first Monday in June. The day commemorates the arrival in the Swan River colony of Lieutentant-Governor Stirling and the first colonists on board the *Parmelia*. Rough weather meant Stirling only sighted the mainland coast of WA on 1 June without making it to shore. Heading for safe anchorage in Cockburn Sound, the *Parmelia* ran aground on a bank and was badly damaged. Captain Fremantle and his crew, who had arrived a month earlier in the HMS *Challenger*, rescued the *Parmelia* and those on board. Women and the children of the officials were transferred to the *Challenger*, and others were taken ashore to Carnac Island. Later, a temporary settlement was made on Garden Island. The Proclamation formally establishing the Swan River colony was read by Stirling at Rous Head on 18 June, but not until some time later were the colonists finally transferred to the mainland.

The choice of date for Foundation Day has been attributed to the naval associations with Lord Howe's so-called 'Glorious 1st June' naval victory during the French Revolutionary Wars.

Since 1973 the Western Australian Citizen of the Year Awards have been announced on Foundation Day each year. **Virginia Rowland**

See also: Annexation, acts of; Foundation and early settlement; HMS *Challenger*; HMS *Parmelia*; HMS *Success*; HMS *Sulphur*
Further reading: D. Black, 'Reflections on Foundation Day: Western Australia, past, present and future: address on Foundation Day 2001', *Early days: journal of the Royal Western Australian Historical Society*, vol. 12, no. 1 (2001)

Freemasonry, a widespread and once secret organisation of men, whose objectives include promotion of brotherly love, tolerance and charity, had its roots in seventeenth-century Britain. A number of Christian denominations, notably Roman Catholics and some evangelical Christian churches, have at times denounced Freemasonry and it has been the target of conspiracy theorists who believe the movement aims for world domination.

The order in Western Australia dates from 1841 when a group of prominent Freemasons, including Governor John Hutt and Colonial Secretary Peter Brown, sought a charter from the Grand Lodge of England granting them the right to establish a lodge in WA based in Perth. The Lodge of St John No. 712 was consecrated in Perth on 4 April 1843. A second lodge, the Lodge of Unity, which later amalgamated with the Lodge of St John, was established in 1845. It was not until 1865 that another independent lodge, the Fremantle Lodge No. 1033, was formed. By 1888 five other Lodges had been established: the Plantagenet Lodge in Albany (1873); Geraldton (1877); Wellington in Bunbury; York; and St George's in Perth (1886). A Scottish lodge was formed in 1896, and within four years there were thirty lodges operating in WA under Scottish allegiance. Attempts were made to form a Grand Lodge in 1894 and 1899 but there was disagreement between the various lodges because of their differing allegiances to Scottish, English or Irish masonry, each of which had different constitutions, rituals and operating practices.

The first Grand Lodge of Western Australia was formed in 1900, when there were thirty-seven lodges with a membership of approximately two thousand. WA governor Sir Gerard Smith was installed as Grand Master. Since then, prominent members of Western Australian society with far-reaching influence have been installed as Grand Masters. They include newspaper proprietor and philanthropist Sir John Winthrop Hackett (1901–03), State Librarian Dr J. S. Battye (1936–51), Commissioner for Railways Joseph (Jack) Ellis (1952–55), Governor of WA and Tasmania Sir Charles Gairdner (1955–57, 1962), Principals of Wesley College Dr James Rossiter (1958–62) and Norman Collins (1966–69), and Chairman of the Metropolitan Transport Trust George Shea (1984–87).

The longest-serving Grand Master was Anglican archbishop Charles Riley, who served from 1904 until his death in 1929, except for the years 1918–19. He travelled through WA extensively, combining his visitation duties as Grand Master with those of archbishop. He also did a great deal to shape the direction of the Lodge, conceiving it as a place where Churchmen and non-Churchmen could unite in a fraternity committed to moral precepts of justice, prudence, temperance and fortitude (the cardinal virtues) and the fatherhood of God and the brotherhood of man. When Riley died there were 150 branch lodges and approximately 10,000 members.

Masonic halls were built as meeting places for each lodge and consecrated as temples. The first masonic hall in WA was completed in 1867 on Howick Street (later Hay Street). Extant masonic buildings in WA of particular note include the corrugated-iron, two-storey Victorian Second Empire style, former masonic hall in Cue (1899) and the inter-war Art Deco style Nedlands Park Masonic Hall (1935) on Broadway, Crawley. Several of Western Australia's many other important masonic halls and buildings are heritage listed.

Masonic Lodge, Cue, 1994. Courtesy Heritage Council of WA (PO0637)

The Freemasons are very active in community service through areas such as care of the elderly, projects for the unemployed and the provision of education and research grants. However, membership has fallen dramatically. In 1986 the Grand Lodge of Western Australia had approximately 274 lodges and 13,465 members. In 2001 there were 145 lodges and approximately 4,800 members.
Anna Kesson and Jenny Gregory

See also: Spirituality and religion
Further reading: P. J. Boyce, 'The First Archbishop: Charles Owen Leaver Riley' in F. Alexander (ed.), *Four Bishops and their See: Perth, Western Australia 1857–1957* (1957); K. Henderson, *The Masonic Grand Masters of Australia* (1988)

Fremantle is a narrow peninsula of land located at the estuary of the Swan River within Cockburn Sound, its principal landmarks from the sea being the limestone outcrop known as Arthur Head and the two hills known as Buckland Hill and Monument Hill (now Obelisk Hill). For thousands of years its fishing resources and the teeming birdlife of its marshes attracted Aboriginal hunters and gatherers in the winter months. Its shallow bar also offered the only crossing place on the river below Heirisson Island. These seasonal visitors knew the area as *Wol-ya-lu* and their ancestral legends explained its landforms as part of the Dreaming or creation-time track created by the *Wagyl* serpent in its progress west from the Darling escarpment.

In May 1829 the strategic location of Arthur Head led to it being chosen by Captain Charles Fremantle RN as the site for his fortified beach camp, and the immediate area was recommended by him as the capital of the new colony of Western Australia. Within a few months, however, Lieutenant-Governor James Stirling had chosen another location upriver for the site of Perth, relegating Fremantle to the status of port and trading centre. Apart from fishing and a short-lived whaling operation at Arthur Head in the late 1830s, Fremantle over the next century and a half was to be economically dependent first on the lightering and trans-shipping of goods to and from coastal and overseas vessels and then on the activities generated by the inner harbour, which commenced in the late 1890s.

For the first two decades of its life, Fremantle was a huddled village of mostly wooden dwellings housing a community of a few hundred people, predominantly fishermen, lighterers and other labourers, with a sprinkling of merchants, innkeepers, government officials and artisans. Laid out in accordance with an 1833 plan drawn up by surveyor J. S. Roe, the town's High Street axis was marked at the western end by the Round House, a twelve-sided limestone gaol on Arthur Head (completed 1831) and at the eastern end by St John's Anglican Church (completed 1842 and replaced in 1887 by the Town Hall). The commercial axis, however, was Cliff Street, which linked the Bathers Bay lightering jetty with the river jetty for the transfer of goods. (The river bar excluded ocean-going vessels until its removal in 1896 to facilitate the new inner harbour.) The construction from the early 1850s of the Convict Establishment on the low ridge overlooking the town brought much-needed capital and forced labour for public works. The first of these were the Commissariat building (now the Fremantle Maritime Museum), the prison itself, and the nearby asylum (now the Fremantle Arts Centre). These Georgian-influenced buildings, together with the houses and cottages for senior prison officers and warders and a handful of stores and merchants' residences, constituted the first phase of Fremantle's built heritage. The completion by convict labour in 1867 of a road bridge across the Swan River and the linking of Fremantle by rail in August 1880 reduced the town's dependence on river communication with the capital. Commercial and sporting rivalry continued

to express the different personalities of the two settlements.

The next major stimulus to Fremantle's economic life was the influx from the early 1890s of adventurers bound for the goldfields, followed by the construction of the river harbour in 1897. The town's population reached more than 6,000 in 1892. Fremantle's old merchant elite families, notably the Mannings and the Batemans, were then at the height of their power through their dominance of commerce and of the Town Corporation (established 1871). By 1901, Royal Mail steamers were calling at Fremantle rather than Albany and it became the first Australian landfall for British and other immigrants. All this resulted in a retailing and accommodation boom and the construction of substantial new shops and hotels in an expanded town whose new axis was Market Street, the relocated railway station marking its northern end in 1907. The completion of a power house in 1905 also led to electrification and the introduction of trams. By early 1915, when Fremantle's citizens farewelled the first troop ships bound for the Middle East, the city's distinctive late Victorian and Edwardian streetscape (much of which survives) had been established. Reclamation of marshy land north of the town and near the river enabled the development of the Phillimore Street area for shipping, freight-forwarding and insurance offices, fringed to the north along Cantonment Street by wool stores.

Fremantle's character as a predominantly working-class community based on 'lumping' (stevedoring) and fishing was now well established and was reflected in its political representation by Labor Party members at state and federal levels. Serious industrial disputes on the wharves took place in 1885 and again in 1919, the latter involving violence. Labour Day and Eight Hours Day were annual opportunities to demonstrate the strength of organised labour, also symbolised by the Trades and Labour Council headquarters on the Esplanade. Trade union leader and later

Prime Minister John Curtin was the federal member for Fremantle, 1928–45. The proclamation of Fremantle as a city on 3 June 1929 marked the community's distinctive character and its achievement of a population of more than 22,000.

During the Second World War, Fremantle served as an important base for Dutch and American submarines and the old lunatic asylum was taken over for military use. The Portuguese and Italian fishing communities were boosted by postwar immigration and the town's cosmopolitan character strengthened. The annual ceremony of the Blessing of the Fleet was instituted on 8 September 1948. Ethnic restaurants emerged with alfresco dining on South Terrace in 1977. Modest economic growth in the 1960s and 1970s led to the destruction of some of the older inner-city streetscape, including the Sandover Building on Kings Square and the Catholic convent on Cantonment Street, but a strong heritage movement emerged to protect convict-period and other buildings of historic significance. As containerisation dramatically reduced the port workforce and working-class families moved out to new suburbs such as Hamilton Hill in the 1970s, Fremantle's social character was gradually 'gentrified' by the influx of middle-class professionals attracted by a distinctive urban lifestyle. Working-class housing was refurbished and former bond stores, wool stores and warehouses in the West End developed as apartments. A major stimulus to the general beautification of the city was the America's Cup challenge series in 1986–87 with its influx of international visitors. From 1990 the establishment of University of Notre Dame Australia in Fremantle resulted in the refurbishment of much of the old commercial West End area centred on Mouat and Henry Streets. With most of its old industries gone, Fremantle entered the twenty-first century as a shopping and entertainment centre, its restaurants, hotels, nightclubs, coffee shops and cinemas making up Market Street's 'Cappuccino Strip'. These facilities, as well as the

Maritime Museum, the Arts Centre and the decommissioned Fremantle Prison, attract many tourists as well as local visitors from a wide radius.

Despite its geographical location within the greater Perth conurbation, Fremantle has continued to exercise its own distinctive identity, best exemplified by the participation of the Fremantle Dockers in the Australian Football League national competition from 1995. The establishment of a third weekly newspaper, the *Fremantle Rooster*, in early 2005 also expressed the city's surviving sense of community. **Bob Reece**

See also: America's Cup; Blessing of the Fleet; Convicts; Fishing, commercial; Foundation and early settlement; Merchant shipping; Migration; Ports; Second World War; Trade unions

Further reading: M. Bosworth, *Convict Fremantle: a place of promise and punishment* (2004); P. Brown, *The merchant princes of Fremantle: the rise and decline of a colonial elite 1870–1900* (1996); J. K. Ewers, *Western gateway: a history of Fremantle* (1971); B. Reece and R. Pascoe, *A place of consequence: a pictorial history of Fremantle* (1983); B. J. Shaw, 'The evolution of Fremantle', in J. Gentilli (ed.), *Western landscapes* (1979); M. Tull, *A community enterprise: the history of the Port of Fremantle, 1897 to 1997* (1997)

Fremantle Doctor The Fremantle Doctor is the regular sea breeze that blows across the Perth metropolitan area on summer afternoons. The term 'doctor' was first used in South Africa and the West Indies, to describe winds with refreshing or cleansing properties; it had entered the Western Australian lexicon by 1870 at the latest, as the name of a distinctive climatic feature gratefully appreciated not only for lowering the daytime temperature, but also for purging diseases from the atmosphere, promoting health and 'vigour'

in children and longevity in adults, and making the colony ideally suited to receive convalescents from less salubrious outposts of the British Empire, especially India. There appears to be no evidence to support an alternate theory that the term originated in the notion of a Fremantle 'docker': a wind used by vessels when docking at the port.

Before suburban development spread along the coast the Fremantle Doctor was always felt initially at the port, before appearing to follow the course of the Swan River and cooling the riverside suburbs en route to Perth. As the city grew during the twentieth century 'the doctor' acquired different connotations, delighting wind-surfers but otherwise encouraging an early-afternoon exodus from blustery beaches, and reliably affecting the outcomes of yachting races and cricket matches. The Fremantle Doctor is a south-westerly wind; its effects are felt on an average of five out of every seven summer days, typically reaching the coast by midday and blowing at between ten and twenty knots during the afternoon, before dying out around sunset. An 'Albany Doctor', 'Geraldton Doctor', 'Esperance Doctor' and 'Eucla Doctor' have long been familiar to residents in other parts of Western Australia. **Joseph Christensen**

See also: Beaches; Coasts; Fremantle; Surfing; Yachting

Further reading: W. H. Knight, *Western Australia: Its history, progress, condition and prospects, and its advantages as a field of emigration* (1870); R. L. Southern, 'The atmosphere', in B. J. O'Brien (ed.), *Environment and science* (1979)

Fremantle Hospital and Mental Health Services is situated in the port city of Fremantle and is one of three general tertiary public teaching hospitals in Western Australia. The oldest section of the hospital is the Knowle, built in 1856 and formerly the home of the first Comptroller-General of Convicts.

Planned by Fremantle Medical Officer Dr James Hope, the hospital was established in January 1897 when inmates from Fremantle Prison stretchered patients from Fremantle's Point Street casualty ward to the Knowle. It was proclaimed a government public hospital on 27 October that year.

The first matron, Bessie Steele, and her staff of five nurses, worked with Fremantle doctors treating up to fifty-two patients. She resigned in 1898. The long-serving Maida Balding was appointed from 1914 until 1939. Matron Olive Jones stayed nineteen years. Mavis Leworthy in 1983 was the last designated matron when Olga Hedeman became Director of Nursing.

During the First World War the hospital barely managed as doctors, nurses and other staff joined the armed forces. Shortages of staff, equipment and pharmaceuticals were experienced again during the Second World War and, when Japanese invasion seemed imminent in 1942, the hospital was evacuated with sixty patients transferred to Heathcote and fifty to Lucknow Hospital in Claremont.

The hospital board, together with honorary doctors, administered the hospital until a medical superintendent was appointed in 1942. Dr Kenneth Aberdeen was appointed surgical superintendent and Dr Robert Elphick was in charge of the medical area. In 1952 Dr John Rowe took over until 1962 when Dr Peter Smith was appointed. In 1948 James Scrymgeour followed A. T. Hookway as administrator. Arthur Smith followed until 1975 but Roy Marshall was appointed in 1974.

The Adelaide Samson Children's Ward opened in 1927. The Ron Doig Block was named in 1934 after the South Fremantle footballer who died after injury on the football field. Attached to the Ron Doig Block, a three-storey block was constructed that housed wards, physiotherapy, blood bank and pharmacy departments. It was called the William Wauhop Wing, after the administrator. In 1939 a medical ward was built, named the Alexander McCallum Memorial Block after the former Minister for Works. The Greenslade Wing was built in Attfield Street and opened in 1976. For extra accommodation for patients and staff, Fremantle Hospital acquired Bicton Annexe in 1973, Mosman Park Annexe in 1956, Bunda Kudja Maternity Hospital in 1956, followed by the East Fremantle Annexe in 1959. The last major building was the Princess of Wales Wing, opened by Queen Elizabeth II in 1981.

The number of patients had increased to 200 in 1939; by 1987 the figure had risen to 363, plus forty at Woodside Hospital. With the advent of a medical school at The University of WA in 1958, the then 201-bed capacity at Fremantle Hospital was approved as a teaching hospital for clinical training. By 2005 there were approximately 505 hospital beds and 2,600 staff. In 2006, services delivered from Woodside Hospital were transferred to Kaleeya Hospital. The Rottnest Island Nursing Post continues to be administered by Fremantle Hospital.

Over time the structure of nursing training and accommodation has also changed. In 1958 there were five separate nurses' homes. By 2005 all had been demolished or used for other purposes, as nursing staff now lived out.

In earlier times, especially during recession, Fremantle townspeople donated goods to the hospital, while others—trades people or associations such as South Fremantle Football Club, the Fremantle Lumpers' Union, and Fremantle Ugly Men's and Women's Associations—gave cash, effected repairs or held fundraising functions. Prison labour was sometimes used for minor construction and repair work. More recently, finances for the expansion and administration of the hospital have come mainly from government and the Lotteries Commission, but private donations and businesses still contribute a great deal.
Chris Jeffery and Phyl Brown

See also: Colonial health; Fremantle; Nursing; Public health

Further Reading: P. Garrick and C. Jeffery, *Fremantle Hospital: a social history to 1987* (1987); J. H. Stubbe, *Medical background: being a history of Fremantle hospitals and doctors* (1969)

Fremantle Prison was built on six hectares of land overlooking Fremantle between 1852 and 1859. The last convict gaol built in Australia, it remains the most intact, having the longest and tallest cell range. Originally referred to as the Imperial Convict Establishment while under British governance (the term was also used for the entire convict project in WA), in 1867 it was renamed Fremantle Prison. In 1886 control was transferred to the colonial government and it became Western Australia's main prison. A major riot and fire in the main cell block in January 1988 led to an inquiry into prison conditions. It was subsequently decommissioned as a maximum-security prison in 1991 and opened to the public in 1992 as a heritage and cultural tourism site.

On 1 June 1850 the first seventy-five convicts, with warders, pensioner guards and their families, arrived in Fremantle in the *Scindian*. They lived in temporary quarters on the Esplanade in the town while building the prison under instruction from the Royal Engineers, notably Sir Joshua Jebb (Director of Convict Prisons in London 1850–63), Captain Edmund Henderson (Comptroller General of convicts 1850–62), Lieutenant Henry Wray (1851–55, Acting Comptroller General 1856–58) and James Manning (Clerk of Works 1850–72).

The prison was built on the plan of Pentonville Prison in England. Constructed from limestone quarried on site, the four-storey main cellblock was the largest convict-built structure erected in the colony. Visually, it dominated Fremantle. Originally the prison had more than 500 cells, each equipped with a basin and running water, plus four large association rooms (dormitories) with no plumbing, holding a further 320 men. All slept in hammocks. When the sanitation system failed in

the 1860s, it was replaced by buckets, which remained in use until the prison closed. Facing the main gate and prominent in the cell-block facade was the Anglican chapel, indicating the importance of God, although Catholics had to wait for an association room to be cleared before they could worship apart. The Anglican chapel provided ecumenical services for all Christian denominations.

The first workshops on the site were the carpenters and blacksmith. Other buildings included the kitchen, bakehouse, laundry, bathhouse, hospital and eighteen refractory cells. These punishment cells held six 'dark' and twelve 'light' cells used for solitary confinement.

The senior officers, superintendent, chaplain, surgeon and the Royal Engineers lived or worked in quarters adjoining the prison wall. Henderson had a superb house, the Knowle, built for himself and his family a small distance away. It is now incorporated into Fremantle Hospital. Warders lived in terrace housing below the prison. The layout reflected the convict establishment hierarchy.

The prison had its own water supply: two barrel-vaulted reservoirs plus a complex series of shafts, weirs and tunnels dug by prisoners under the direction of the Public Works Department. In the 1870s the water supply was connected to the town, firstly to supply ships at the Long Jetty and in the 1880s to serve the whole town. The tunnels were opened for public access in 2005.

Prisoner numbers began to increase in the 1890s with the growth in population during the gold rushes. In 1889 the north-west corner was walled off to become Female Division. In 1895 a new wing was built in Female Division with a second storey added in 1909. It was the first prison built especially for women in WA and remained in operation until 1970. A separate cell block known as New Division was completed in 1907.

The gallows were built in 1888 and Fremantle Prison became Western Australia's only place of legal execution until 1984, when

The Terrace, Fremantle Prison, 1890, showing left to right, Chaplains Residence No. 8, Superintendent's Residence No. 10 and Gatekeepers Residence No. 12 The Terrace. Courtesy Fremantle Prison (5183P)

capital punishment was abolished. Forty-four people were hanged there, the last person being Eric Edgar Cooke in 1964. The only woman hanged was Martha Rendell in 1909.

There were numerous attempted escapes. The only escapees who were not recaptured were the Irish Fenian John Boyle O'Reilly (1869) and six more Irish Fenians (1876) in the American whaler *Catalpa*. Other well-known escapees include Moondyne Joe (1860s) and Brenden Abbott (1989).

Parts of the prison were used as a military gaol during both world wars. During the Second World War the prison also became an internment centre where Germans and Italians were held en route to other internment camps.

In the 1980s, prior to the prison's closure, prisoners were granted permission to create artworks on cell and exercise-yard walls. Much is outstanding. The earlier monochrome frescoes drawn by James Walsh on the walls of a cell are the only such known surviving artworks by a convict. The Prison Collection holds approximately 5,000 objects, including artworks, convict artifacts and furniture, plus 2,000 photographs.

A place of outstanding heritage value, Fremantle Prison is protected by registration on the National Heritage List. It is managed by the Department of Housing and Works for the WA government. **Sandra Murray**

See also: Capital punishment; Convict discipline and punishment; Convict labour; Convict legacy; Convict ships (appendix); Convicts; Convicts, conditional pardon; Convicts, ticket of leave; Convicts, travellers' writings; Convicts, white-collar; Fenians; Parkhurst convicts; Pensioner Guards; Prisoner art
Further reading: M. Bosworth, *Convict Fremantle: a place of promise and punishment* (2004); J. S. Kerr, *Fremantle Prison: a policy for its conservation* (1992)

French maritime exploration During the period of fierce maritime rivalry two centuries ago, Australia could easily have become partly French, like Canada. France was expanding trading routes into the southern seas, or seeking the legendary *Terra Australis Incognita*, drawn vaguely on many early charts. Between 1503 and the mid nineteenth century there were numerous attempts by French scientific or commercial expeditions to explore the southern oceans.

In 1504, Paulmier de Gonneville apparently took back to France, from an unidentified southern land, an 'Indian' named Essomericq. Unfortunately he could not be returned to his homeland, because all charts had been lost in a shipwreck, so a legend grew in France relating to this mysterious land. In 1699 Lieutenant Voutron sought permission from the French Naval Ministry to explore the Swan River district, on the recommendation of Admiral Duquesne-Guitton, who had sailed his vessel, *L'Oiseau*, along Australia's south-west coast in 1687. In 1772 Kerguelen de Trémarec claimed to have discovered the elusive 'Gonneville's Land'; in fact he had only found the inhospitable Kerguelen Islands in the southern Indian Ocean. However, his second-in-command, Louis de Saint Allouarn in the *Gros Ventre*, who had been separated from his commander during a storm, sailed eastward to Cape Leeuwin and then north to Shark Bay. In March 1772 Saint Allouarn 'annexed' the western side of Australia in the

name of King Louis XV of France, burying two bottles containing a parchment and two French silver coins (*écus*) on Dirk Hartog Island. In early 1998 the two coins, two bottle tops and a bottle from this venture were discovered; these are now displayed at the Western Australian Maritime Museum.

The disappearance of La Pérouse, who had extensively explored the Pacific region before visiting Port Jackson in January 1788, caused the new revolutionary French government to send Bruny d'Entrecasteaux to search for him in 1791. Neither he, nor Nicolas Baudin in his later 1800–04 expedition, discovered the tragic fate of La Pérouse, but they did leave a legacy of more than 400 French names on the Australian coast, including over 250 in Western Australia. The artists of both expeditions produced exquisite drawings of the Aboriginal people, and of the flora and fauna of many coastal areas, before white settlement spread beyond the Sydney region. The Baudin expedition was very significant, taking back to France over 100,000 scientific specimens, including more than 2,500 new species.

Louis-Claude de Freycinet, a young officer during the Baudin expedition, returned to Shark Bay accompanied by his wife Rose during his 1817–20 voyage. He took back to France the plate mounted in 1697 by the Dutchman Vlamingh; this was returned to Australia in 1947 and is displayed at the Western Australian Maritime Museum. The French subsequently considered establishing a convict settlement in south-western Australia, which the British had still not officially claimed. Worried by the continued French interest, Governor Darling sent Major Edmund Lockyer from Sydney in the brig *Amity*, to establish a British presence at Albany in December 1826. France therefore missed its final opportunity to form a colony on this continent. **Noelene Bloomfield**

See also: Albany; Annexation, acts of; British maritime exploration; Collections, fauna; Collections, plant; Dutch maritime exploration; Historical imaginings; Plates, Hartog and Vlamingh

Further reading: J. Bonnemains, E. Forsyth and B. Smith (eds), *Baudin in Australian waters: the artwork of the French voyage of discovery to the southern lands 1800–1804* (1988); B. d'Entrecasteaux, trans. E. Duyker and M. Duyker, *Bruny d'Entrecasteaux: voyage to Australia & the Pacific* (2001); J. Dunmore, *French explorers in the Pacific*, 1, 2 (1965); L. R. Marchant, *France Australe* (1998)

Fringe dwellers are those who live in poverty on the margins of a town or city. The fringe dwellers of Western Australia are the generations of Aboriginal and part-Aboriginal people who have lived in semi-permanent camps on the outskirts of Perth and townships across the state. The first camps were formed in the 1830s alongside the Swan River or the freshwater lakes north of the fledgling village of Perth. Other camps came into existence later in the century, as European settlements were established on Aboriginal lands in the farming districts of the South-West and Great Southern, on the Murchison and Eastern Goldfields, along the Gascoyne and Pilbara coastline, and at Broome, Derby and Wyndham in the Kimberley. Widespread racial prejudice barred fringe dwellers from integration into white society; they were constantly denied access to schools and other standard social and municipal services, and were forced to rely on casual and seasonal labour, handouts, and petty crime.

The draconian provisions of the *Aborigines Act 1905* were in part a product of white anxieties about fringe-dwelling Aboriginal people, especially in the more heavily settled agricultural and mining districts. The forced removal of fringe dwellers at Bunbury in 1906 marked the beginning of an official policy of 'rounding-up' and confining fringe dwellers on reserves such as Carrolup, near Katanning, or Moore River.

During the 1950s official policy began to favour the assimilation of fringe dwellers congregated on the outskirts of country towns, and a program of erecting 'transitional' housing was introduced, commencing at Port Hedland in 1956. In Perth, attempts were made to remove fringe dwellers from Swanbourne and the Swan Valley to a newly established community at Allawah Grove (1959–69) near Guildford, but many prospective residents resisted the move. In the late 1970s coordinated protests to state and national governments briefly caused the plight of fringe dwellers to become a mainstream political issue. The protests were led by Robert Bropho, who subsequently recorded his experiences of life among Western Australia's outcasts in *Fringedweller* (1980). Ongoing migration from rural areas to the metropolitan region and bigger rural centres, the better provision of public housing, and the symbolic closure of the Cullacabardee settlement in the Swan Valley in 2003, heralded the demise of the fringe dweller; though in the new century Aboriginal people remained the most marginalised group in Western Australian society. **Joseph Christensen**

See also: Aboriginal labour; Homelessness; Poverty
Further reading: R. M. Berndt and C. H. Berndt (eds), *Aborigines of the West* (1979); R. Bropho, *Fringedweller* (1980); S. Delmege, 'A trans-generational effect of the Aborigines Act 1905 (WA): the making of the fringe dwellers in the South-West of Western Australia, *E-Law: Murdoch University electronic journal of law*, 12, 1 (2005); A. Haebich, *For their own good* (1988)

Frontier violence, Kimberley The Kimberley region of Western Australia experienced one of the most sustained periods of conflict between Indigenous groups and European society in Australian history. In what could be described as the frontier era of colonial conquest, warfare-type violence between traditional owners and settlers and police lasted from the early 1880s until the 1930s.

Extended conflict occurred in the Kimberley because a heightened sense of insecurity motivated violent practices by a small settler society in a region of several thousand Aboriginal people comprising approximately fifty distinct language groups. When British colonisation reached the Kimberley in the 1880s a century of dispossessing Aboriginal people from almost all areas of fertile land in Australia had entrenched a familiar pattern of frontier relationships. Aboriginal lands and waters were to be used for the economic benefit of the settlers and the wider British imperial world, and the traditional owners would be subjugated as exploited labour in the pastoral and pearling industries.

The pattern of settlement in the Murchison, Gascoyne and Pilbara districts had already shown that Aboriginal labour was essential to sustaining European settlements. Aboriginal people were used as shepherds for flocks of sheep in rangelands with no fences, and as divers for pearl shell. Yet the Kimberley was different. Innovations in fencing technology in the 1880s lessened the need for pastoralists to engage large numbers of Aboriginal workers to manage stock, and at this time pearl divers from Asia had replaced the need to press-gang Aboriginal divers. The rugged mountainous terrain of much of the Kimberley meant that many Indigenous people could seek refuge from armed squads of settlers and police.

In the central highlands, along upper reaches of the Fitzroy River and in the East Kimberley particularly, the encroaching pastoralists with their sheep and cattle experienced increasing attacks on stock and occasionally on pastoralists. Traditional owners, clearly anxious about stock endangering places of religious and cultural importance, developed remedial herd management practices that conflicted with the economic interests and property values of the pastoralists. A cycle of violence quickly

escalated, and reached a point where a significant police quasi-military force was strategically located throughout the Kimberley region. By the mid 1890s the Kimberley police represented a quarter of the colony's police numbers, providing support to less than one per cent of the total settler population in WA. Aboriginal oral testimony and extensive archival records tell a grim story of regional relationships moulded by violence, coercion and legal oppression.

Attacks on Europeans inevitably prompted disproportionate retaliation, often involving massacres of men, women and children. Oral evidence suggests that the burning of bodies, which was clearly apparent in attempts to disguise mass murder at Forrest River in 1926, was not unique in settler–Aboriginal relations. In the early 1890s the West Kimberley resident magistrate reported wide-scale sexual abuse of Aboriginal women by settlers on pastoral settlements, which he claimed was a source of conflict. There is sufficient evidence that sexual exploitation of Indigenous women was a common feature of the Kimberley.

The Bunuba people of the central Kimberley mounted the most notable opposition to colonisation. From the mid 1880s to the early 1890s, Ellemarra led the Bunuba. Captured by the police at least three times, Ellemarra escaped from both Derby and Roebourne prisons in a fashion that enhanced his fearful and awesome reputation. Ellemarra, like many Kimberley Aboriginal people, engaged in a complex and contradictory frontier life as stockman, police tracker and resistance warrior. However, the most famous of all was Jandamarra, also known as Pigeon, nephew of Ellemarra, who in 1894 when working with the police made a dramatic defection to his people by killing his police boss, Bill Richardson, and liberating a number of his chained countrymen who were en route to Derby gaol. Jandamarra captured a large cache of firearms, trained a number of his people in techniques of European armed combat, and engaged in organised battle with police

and settlers. The police and settler response resulted in the killing of many Aboriginal people over a wide area. For the next two and a half years, Jandamarra played out a creative cat-and-mouse game with police and settlers until he was shot dead on 1 April 1897 by Micki, an Aboriginal tracker from the Pilbara region.

There were many other Aboriginal resisters in other parts of the Kimberley, whose memory has not survived in oral testimony because of customary practice of not naming the deceased. Their place in history often relied on the written records of the colonisers. The exploits of Normodie (or Albert) figure prominently in police records. A Ngikina man, from Noonkanbah station, Normodie led a serious attack on pastoral settlement along the Fitzroy River in 1896, involving the strategic lighting of fires that threatened a number of sheep stations and the township of Derby. Normodie was captured and transported to Rottnest Island, where he died in 1897.

Reconstructing history through oral and archival sources can depict Kimberley Aboriginal resistance as heroic and worthy of celebration, but it should never overlook the fact that Kimberley frontier conflict was a demonstrably uneven contest. British colonists, supported by a militarist tradition and advanced technological weaponry, were unrelenting in their efforts to subjugate Aboriginal people. Between 1883 and 1926 about forty European settlers and police died at the hands of Aboriginal people, compared to hundreds, perhaps thousands, of Aboriginal people who lost their lives on the unrecorded battlefields of the Kimberley region. **Howard Pedersen**

See also: Aboriginal culture and society; Aboriginal labour; Aboriginal oral history; Aboriginal resistance, South-West; Blackbirding; Kimberley; Massacre, Forrest River; Massacres; Pearling
Further reading: H. Pedersen and B. Woorunmurra, *Jandamarra and the Bunuba resistance* (2000)

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Gambling The history of gambling in WA is one of suppression until the 1930s and gradual legalisation thereafter. Moral entrepreneurs, evangelical Christians and others, convinced that gambling would lead to the ruin of the working class, had gambling in almost all its forms banned, the one exception being betting on race and trotting courses. Population increase fuelled the rapid spread of illegal gambling in WA, particularly after the 1890s gold rushes (yet another form of gambling). Western Australians wanted to gamble, and the range of things on which they would bet was amazing, including sweeps, raffles, lotteries, horses (thoroughbreds, trotters and ponies), foot- and bike-racing, two-up, card games and chocolate wheels. This evident demand for gambling in the face of the laws against it did much to politicise gambling. In the twentieth century, the Labor Party took the side of gamblers, while the conservative parties on the side of suppression.

Gambling served as a source of revenue for governments. Successive governments taxed betting on racecourses, while a Labor government set up the Lotteries Commission in 1933 to raise funds for social services and to suppress a concurrent rage for newspaper competitions. For the next fifty years the Commission sold lottery tickets to Western Australians, until lotto and contiguous games, ostensibly demanding more skill, replaced them. The Commission has become a source of great wealth for the government, which uses it to fund hospitals, charities and community groups.

The second breach in the wall of prohibition was the legalisation of off-course betting in 1954. Off-course bookies dotted the city, suburbs and the bush, catering to working-class punters, surviving because the police tolerated and regulated them, as well as conducting occasional raids to keep the politicians happy. Finally, in 1954, after fifty years of contention, the then Labor government legalised a string of formerly illegal bookies, many of whom were incorporated in 1961 in the state-run Totalisator Agency Board that set up a string of TABs across the state.

By this stage the influence of the moral evangelists had waned. Over the next twenty years restrictions on petty gaming were progressively lifted, until in 1985 another Labor government legislated to allow the opening of the Burswood Casino, ostensibly to put an end to the growth of illegal casinos in Northbridge. Promising tax income and tourists, gambling had now become glamorous. Governments have resisted the lure of poker machines (WA is the only state without them), yet the world of online gambling has potentially opened up every home to an infinite array of gambling games.

Seen generically, gambling has lost its class and political identity. No government now would or could wind it back, and the only restriction remains the proscription of poker machines and the illegal versions of the legal forms of gambling (SP bookies, casinos, etc.). Yet particular kinds of gambling still attract different classes. Although little local research has been done, national research shows that poverty still fuels gambling and that gambling may be heavier in the working class than the middle class. There is no reason why the same circumstances should not apply in Western Australia. **Charlie Fox**

See also: Greyhound racing; Horseracing; Lotteries; Trotting
Further reading: T. Costello and R. Millar, *Wanna bet? Winners and losers in gambling's luck myth* (2000); C. Fox, 'Illegal off-course betting in Western Australia', Masters thesis, UWA (1979); J. O'Hara, *A mug's game: a history of gaming and betting in Australia* (1988)

Garden Island is part of the chain of islands off the coast of metropolitan Perth, isolated by rising seas about 7,000 years ago. Depicted in seventeenth-century Dutch charts, recorded as *Ile Buache* by the French expedition of 1801–03, and identified by the Nyoongar Yagan as *Meeandip*, it was renamed in 1827 when Captain James Stirling and botanist Charles Fraser visited the island and planted a 'garden' of seeds and plants. In 1829 British colonists built the first, but short-lived, settlement, 'Sulphur Town', at Cliff Head. The island was intermittently used as a prison, for Aborigines during the 1830s and for internees during the First World War. Since at least the 1890s Garden Island has been used for recreation, and a holiday settlement established at Careening Bay in the 1920s, with a regular ferry service from the mainland, was expanded after the Second World War to include a store and tearooms as well as holiday cottages.

Although part of Stirling's land grant, the strategic and defence value of Garden Island ensured that part of the island was reserved as Crown Land. In 1915–16 the Commonwealth purchased the island for defence purposes, but leased most of it for recreational use until 1969. A causeway between Garden Island and the mainland was completed in 1973 as part of the HMAS *Stirling* naval base, commissioned in 1978. Despite continuing expansion of the base since 1987, and although public access is restricted, the island is still used for recreation, conservation and scientific research. **Marion Hercock**

See also: Ferries; Fishing, recreational; Foundation and early settlement; Islands; Navy
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); M. Hercock, 'Garden Island: From Captain Stirling RN to *HMAS Stirling*', in A. Gaynor, M. Trinca and A. Haebich (eds), *Country: visions of land and people in Western Australia* (2002)

Gardens, domestic The initial concern of the first settlers in the Swan River colony was food. To meet this need the Horticultural Society sent a consignment of nine boxes from the UK containing cuttings of fruit trees, plants, and seedlings of vegetables and some ornamentals. The first cultivation was on Garden Island and is likely to have been a kitchen garden. The productive garden, with grape arbours and trellises as well as ornamentals of South African origin, was common in colonial Perth (for example, Alpha Cottage), with general cultivation information provided by the early almanacs.

By the 1870s, John Gresswell, Joseph Wylde and Enoch Barratt had established nurseries on the town's wetlands and provided fruit trees as well as ornamentals. The addition of a pleasure garden within a fenced enclosure and a curving drive, specimen trees and shrubs was a feature of larger properties such as Crawley Park House. With the gold rush of the 1890s and subsequent population growth, more nurseries evolved such as C. F. Newman and Son (established 1898), Dawson and Harrison (1903) and Wilson and Johns (1898), providing a wider range of decorative plants for the developing gardens in the new suburbs. With regular block sizes and uniform building codes a more defined look was emerging, with a front fence usually backed by a cypress hedge, a front lawn of buffalo grass, if a regular supply of water was available, and a range of hardy shrubs planted along the base of the

front verandah. A seasonal display of annuals raised from seed enhanced the scene. At the rear of the house could be found a kitchen garden with space for vegetables, some fruit trees, a chicken run, woodshed, water tank, WC, and possibly a rockery or bush house for tender plants.

The realisation of the City Beautiful concept in the suburban setting in the interwar years, emphasising landscaped open spaces as a means of enhancing the city, led to the development of garden suburbs such as Wembley and Floreat Park. A neat front garden became an important element: the fence was lower or done away with and hedges disappeared, while a driveway and garage sited on one side of the property appeared. Hybrid tea roses budded onto a reliable understock took pride of place in a geometrically shaped bed within the buffalo lawn, surrounded by side and foundation plantings of hardy shrubs and small trees. Many specialist garden groups, such as the Rose Society, established 1932, helped to disseminate gardening information with regular meetings and publications. There was little change in the backyard, with chooks, a lemon tree and grapevine still common.

By the 1960s a more informal style became evident with the use of tropical plants such as frangipani, umbrella trees, cacti, succulents, and WA native plants promoted by the opening of the Botanic Gardens in Kings Park (1965), as well as rocks and natural water features. The need for a productive back garden had waned, although they were still common in migrant families. Severe water restrictions in the early 1970s saw a greater use of Australian native plants and a bushland approach to garden design, with the utilisation of more indigenous shrubs and trees supplied by the newly established wildflower nurseries. Irregular-shaped beds and the use of natural materials such as leaf litter, railway sleepers and rocks identified the style.

In the 1980s, in part associated with increased overseas travel and literature on the English garden, a revived cottage-garden style appeared. Old-fashioned plants, perennials and heritage roses within a formal design developed, with more of the rear garden utilised for entertaining purposes.

The later years of the twentieth century saw the rise of courtyard gardens due to the reduction in block size and suburban infill. Landscaping of a formal design, including water features, standardised or clipped shrubs, a limited range of plants and reduced colour schemes within clipped, edged, garden beds and a larger use of paving became dominant.

The combined factors of soil, climate and reduced rainfall with the greater use of water-wise plants of Australian and Mediterranean origin will further affect the style of gardens in the twenty-first century. **John Viska**

See also: Botany; Food production, suburban; Horticulture; Kings Park and Botanic Garden; Parks and gardens; Suburban development; Water management

Further reading: R. Aitken and M. Looker (eds), *The Oxford companion to gardens in Australia* (2002); O. Richards, *Theoretical framework for designed landscapes in Western Australia: final report* (1997); G. Seddon, *Sense of place* (1972, 2004)

Gascoyne The Gascoyne region extends 600 kilometres along the coast from Zuytdorp Cliffs to North West Cape and covers 137,938 square kilometres. The residential population of approximately 10,000 is bolstered by sunseekers in winter. The sub-tropical climate has a variable rainfall, usually generated by cyclonic activity, averaging 200 millimetres per year. Extreme heat experienced in inland areas is moderated in Carnarvon by southwest trade winds.

Portuguese navigators were the first Europeans to sight the north-west coast of Australia. Pewter plates on the island later named Dirk Hartog record landings of the Dutch mariners Dirk Hartog (1616) and Willem de Vlamingh

(1697). Willem Jansz visited in 1618 and English mariner William Dampier designated Shark Bay in 1699. French explorers Nicolas Baudin (1801) and Louis de Freycinet (1818) named several places in the same vicinity. The Baudin expedition compiled the earliest information about coastal Aborigines to reach Europe. In 1802 Matthew Flinders sailed down the coast in the damaged *Investigator* and Phillip Parker King (1818–22) charted the Gascoyne coast. George Grey named the Gascoyne River, in 1838, to compliment his friend Captain Gascoyne.

Harsh, arid terrain between the Murchison, Wooramel and Gascoyne rivers was less hospitable to land explorers A. C. Gregory (1848) and Robert Austin (1854). Surveyor F. T. Gregory successfully pushed north beyond the Gascoyne in March 1857 to latitude 24° 20′. Gregory named eighteen features, including Mount Gascoyne, Kennedy Range and a great monolith rising 262 metres, Mount Augustus (Burringah), to honour his distinguished brother. This expedition enabled leasehold of Crown Land for pastoral settlement determined by 1878 regulations.

All Western Australian pastoral leases issued under the now repealed *Land Act 1933* will expire on 30 June 2015, and by 2007 there were already indications that the nature of leaseholds will change dramatically. Properties such as Minilya, Brick House, Wandagee, Yalbalgo, Mardathuna, Boolathana and Giralia have become familiar geographical locations, social entities and havens for travellers. The availability of artesian water together with the knowledge that sheep would graze on spinifex (*Triodia*) partially solved the problem of uncertain rainfall.

Pioneer families, many remaining into third and fourth generations, took up large tracts of leasehold land and adopted a lifestyle to suit their isolation. They built spacious homesteads of weatherboard or local stone, usually with wide verandahs and breezeways. Within the station confines a structured hierarchy was commonly accepted.

The station manager or 'the boss' was the authority figure who delegated work to the overseer, jackaroos, stockmen, shearers and other staff. For years the station communities were dependent on the weekly mailman for communication and stores; pedal radio for emergency and local contact; on governesses, School of the Air and metropolitan boarding schools to educate their children; and on the Flying Doctor Service for medical crises. Isolation strengthened the pastoral network, hence such gatherings as the race meetings at Winning and Gascoyne Junction were important events in the district's social calendar.

The impact of twentieth-century technology eased domestic life and work practices in the outback in multiple ways. Bitumen on major roads replaced seemingly endless red-dirt tracks pitted with corrugations and potholes. Other welcome improvements included electric generators, refrigeration and cyclone-proof buildings. Air-conditioned vehicles eliminated dust and heat, light aircraft and motorbikes contributed to efficient boundary checks and reduced time spent on mustering. Road trains and commercial air services have replaced transport by coastal vessels and camel teams. Fluctuating wool prices on the international market have had a boom or bust effect on the pastoral industry, which in turn has generated constant tension between pastoralists, banks and stock firms.

In the early twenty-first century the dynastic legacy of the outback is weakening as pastoral properties begin to change. Despite possible land degradation, former merino runs now include cattle, goats and exotic breeds of sheep for meat markets. Many stations offer tourist accommodation. Aboriginal groups, the Department of Environment and Conservation, mining and petroleum companies have acquired mining leaseholds, which frequently change hands.

The advent of white settlers, steeped in materialistic aspirations of the colonial ethic, inevitably rebounded on Aborigines who had

lived in the region for centuries. Eminent author Jack Davis contended that before the white invasion, Aboriginal people, living in complete accord with their environment, had a perfect way of life. When the first intruders appeared, local inhabitants disappeared, leaving deserted dwellings as evidence of their existence. Pastoralists' appropriation of land for their imported livestock predicated profound changes for the Malkana, Maya, Purduna, Warriyangka, Thiin, Payunga, Pinikura, Tharrgari and Thalanyi communities. When traditional freedom to roam the land was restricted and Indigenous people were expected to conform to unfamiliar mores and constraints, their bewilderment was soon manifested by sporadic conflict.

Aboriginal men showed ability as stockmen and Aboriginal women were trained for domestic service. Apart from traditional walkabouts when they sought bush tucker, station Aborigines living in ramshackle humpies became increasingly dependent on their employers for food rations and token payments. In 1950 the average wage for an Aboriginal stockman was £2 per month, rising to the equivalent of £8 to £10 in 1968, after the federal court ruled that Aborigines employed in the pastoral industry must receive the same wages as non-Aboriginal workers. As a result, many stations could not afford to retain their Aboriginal workers or support their families.

During the 1930s Depression two encampments were set up on the southern bank of the Gascoyne River near Chinaman's Pool. One camp provided temporary accommodation for destitute Caucasians; the other was a designated urban reserve for unemployed Aboriginal families. A day and boarding school for Aboriginal children, set up in 1946 by the Church of Christ, was condemned in 1970 by the Carnarvon Aboriginal Advancement Association. The tin shacks on the reserve were replaced by Housing Commission homes. Chinaman's Pool is now a recreational reserve.

Gazetted in 1883, Carnarvon, with wide streets once traversed by camel teams and shops with overhanging roofs to provide shade, is the main service town in the Gascoyne Region. It had a population of 9,152 at the 2001 census. Its five major industries are fishing, horticulture, pastoral, mining and tourism. First established in the 1920s, plantations around the Gascoyne River delta have flourished since the Second World War, especially since an influx of Italian and Yugoslav market gardeners in 1955. Bananas, citrus fruit, mangoes, avocados and a range of vegetables are sent to Perth and eastern states' markets. Eggs are supplied to northern mining towns. The river rises and falls in response to the Carnarvon rainfall, which averages 230 millimetres a year, hence irrigation is essential to exploit the fertile soil. Growers harness water by installing their own pumping plants; they also benefit from the government water supply scheme. The Department of Agriculture's Gascoyne Research Station assists growers in plant selection, disease and pest control.

The heritage-listed dishes on Brown's Range's near Carnarvon are integral to the non-standard earth station released in 1969 by Commonwealth Telecommunications Commission to honour its commitment to the International Telecommunications Satellite Consortium (INTELSAT). Dedicated to telemetry, tracking and command functions, the station also supported NASA's space flight program until 1975. At Exmouth between 1967 and the turn of the century the Harold E. Holt Naval Communication base and the Learmonth Solar Observatory were part of a worldwide network.

Industries in the region since the 1960s include commercial fishing, rock lobster, prawn, scallop trawling and processing at Carnarvon, Exmouth and Denham. These superseded vigorous whaling at Babbage Island and Point Cloates. High-grade salt is recovered at Lake MacLeod and Useless Loop. Originally bases for

gathering sandalwood and guano at Shark Bay, Exmouth and Denham are now fast-growing coastal centres.

Inland at the confluence of the Lyons and Gascoyne rivers, Gascoyne Junction retains much of its traditional character. Roadhouses like Billabong, Overlander and Minilya are important landmarks for travellers on the North West Coastal Highway. Cape Range, Mount Augustus and Kennedy Range, major national parks in the region, feature unique species of flora and fauna and extraordinary geological formations.

The ancient land formation of the Gascoyne Region dates back to the Palaeozoic Age. Geologist R. T. Prider described the Carnarvon Basin as 'the only wholly marine Permian sequence in Australia and without doubt one of the thickest marine Permian sequences in the world'. Fossils found in the dry creek beds attract much attention from scientists.

The warm southerly Leeuwin current brings fish spawn and corals from the Indian–Indonesian Archipelago to the Gascoyne coast. Shark Bay was given World Heritage status in 1997, while debate about the possible elevation of the Ningaloo Marine Park continues. Ningaloo Reef, extending 230 kilometres from Point Murat to Amherst Point on the Minilya tract (Lat. 23° 33′ 41″), is renowned for 200 species of hard coral and 50 species of soft coral. Vast meadows of seagrass contribute significantly to the profusion of aquatic life around the islands in the Shark Bay Marine Park. The waters are alive with turtles, whales, dugongs, prawns, scallops, sea snakes, and many species of fish and sharks. Intertidal flats support exotic corals and sponges, communities of burrowing molluscs and hermit crabs. Bottlenose dolphins frequent the bay at the old pearling settlement Monkey Mia, where there are tourist and research facilities. Hamelin Pool Marine Reserve features a remarkable colony of living marine stromatolites.
Wendy Birman

See also: Aboriginal labour; British maritime exploration; Carnarvon Tracking Station; Dutch maritime exploration; Exmouth; Exploration, land; Fishing, commercial; French maritime exploration; Geology; Horticulture; Marine environment; Pastoralism; Rivers of the Pilbara, Gascoyne and Murchison; Salt
Further reading: R. Scott-Memory, *A town grows: Carnarvon, Western Australia* (1967); W. T. Humphrey (ed.), *The biogeography of the Cape Range* (1993)

Gay and lesbian law reform The movement for gay and lesbian law reform in WA got under way in 1971 with the founding of the Campaign Against Moral Persecution (CAMP) WA. It was the first of several activist groups to agitate for legislative change, especially reform of the state's Criminal Code. Until 1989, sex between men carried a maximum penalty of fourteen years' imprisonment, with or without whipping. Sex between women, not falling within the legal definition of 'carnal knowledge' or 'sodomy', was never an offence.

Between 1973 and 1989, five attempts were made to change the Criminal Code. The first, by the Tonkin Labor government, resulted in the Honorary Royal Commission on Homosexuality in 1974. While the Commission recommended reform, the incoming Liberal–Country Party government refused to act on the findings. Indeed, the conservative parties continued to stymie reform. In 1989, however, Liberal MLC Peter Foss broke ranks, voting for partial decriminalisation. Nonetheless, the resulting legislation imposed a raft of new restrictions, including discriminatory age of consent provisions. For example, if one or both parties to consensual male sex were aged between 16 and 21, each committed a crime and was liable to five years' imprisonment. The law remained substantially unchanged for more than a decade.

Although changes took many years to come about, the campaign for gay and lesbian

law reform had widened its agenda by the time of the 1989 reforms. By 1984 WA had enacted equal opportunity legislation. While sexuality was not grounds for complaint under the new legislation, it nonetheless provided a framework for challenging discriminatory practices.

In 2001 the Gallop Labor government conducted an audit of all state legislation, identifying provisions that discriminated against lesbians and gay men. In line with the recommendations in the ensuing report, and with support from the Greens, the government then undertook extensive reform, amending more than four hundred Acts, including the *Equal Opportunity Act* and that old nemesis the Criminal Code. Discrimination on the grounds of sexual orientation became unlawful and the discriminatory age-of-consent provision was removed from the Criminal Code. **Reece Plunkett**

See also: Equal opportunity legislation; Homosexuality
Further reading: R. Plunkett, 'Making Things Otherwise: An Ethnogenealogy of Lesbian and Gay Perth', PhD thesis, Murdoch University (2004)

Gender The term 'gender' gained widespread use in Western Australia with the 1970s feminist resurgence. Gender is now widely understood as both an analytic category and an important social variable. As an analytic category, gender foregrounds the idea that being a man or a woman is more than a matter of biology and that the meanings and consequences of sex differentiation are, to a greater or lesser extent, social. As such, they are properly matters for historical and political analysis and intervention. Gender, then, has an important place in Western Australian history, both as a significant factor in social organisation and a category around which political intervention has been carried out.

There is considerable debate as to the nature of Indigenous gendered social organisation prior to the formation of the colony. While some propose that relations between Indigenous men and women were egalitarian, others paint a less sanguine picture. Nonetheless, it is generally accepted that social life was formally divided along gender lines. Invasion and colonisation brought new forms of gendered norms and social relations. Settlers came with British ideas of correct gender roles and behaviours, including a marked distinction between public and private (or domestic) activity. Women's confinement to the domestic sphere was promulgated as an ideal for all women, though many also necessarily worked outside the home. Women were formally excluded from participation in public life and were economically marginalised. Relative to men, women had little autonomy in the early years of the Swan River colony.

Only male members of the most privileged and powerful class could participate in colonial government. In 1870 suffrage was granted to Western Australian men over the age of twenty-one years who owned property worth one hundred pounds. Women, on the other hand, were not enfranchised until 1899.

Nineteenth-century Western Australian society effectively ignored the role of men in reproduction and women's contribution to production. Not only was the effort and danger of birthing not considered, domestic work was not seen as work. Unpaid domestic work of both working-class and middle-class women was discounted. Women were regarded as weaker and less able than men, even though they gave birth and undertook the heavy manual labour that was domestic work in the nineteenth century. Where women undertook paid work it was in predominantly domestic settings, as housekeepers, servants and the like. However, from Federation, Commonwealth statisticians (who also collected Western Australian information) only recorded women's work where it

occurred outside the domestic realm, such as in factories, mills or workshops. Officially, women were only a small part of the workforce, but if domestic paid and unpaid labour were counted, women's contribution to the economy would have been much larger than this figure indicates.

Not only was women's work either unpaid or paid poorly in comparison to men's, women's opportunity to accumulate sufficient wealth to be economically independent was also limited, because women's right to own property was formally curtailed. Unmarried women could own property (gained largely through inheritance, given women's restricted access to wages), but ownership was transferred to the husband in the event of marriage. Married women could own nothing until the passage of the *Married Women's Property Act* in 1892.

In the 1890s women began to organise publicly against their social, economic and political position. Women argued for access to public life for two reasons: because of their capacity to exert a refining or morally corrective influence; and on the basis of having inherent rights and capacities for full participation in society and politics. While the first of these arguments is rarely found in contemporary feminist argument, the recognition of a woman's autonomy and her right to make decisions, in both the public and domestic spheres, remains a critical element in feminist argument today.

The international temperance movement was significant in promoting political change. Western Australian women formed the first local branch of the Women's Christian Temperance Union (WCTU) in 1892. Members agitated for government attention to social and moral problems and began to organise for women's suffrage. The WCTU provided most of the suffrage activists, but with a considerable contribution from the progressive yet affluent women's organisation, the Karrakatta Club, which was formed in 1894. Many of the Club's members were married to influential men. In 1899 the WCTU formed the Women's Franchise League to agitate for suffrage without a temperance platform.

Although white women won suffrage rights that year, they did not gain the right to stand for state parliament until 1920, when the Parliament (Qualification of Women) Bill was passed. The following year, Edith Cowan became the first woman to sit in an Australian parliament when she won the Legislative Assembly seat of West Perth. Seventy years later, Carmen Lawrence became the first woman premier in Australia (followed by Joan Kirner in Victoria) when the ALP won the Western Australian state election in 1990.

Although white women gained some access to public decision-making practices in the late nineteenth and early twentieth centuries, Indigenous women (and men) did not. While later feminist organisations often supported Indigenous rights and activism, the white women's suffrage movement of the 1890s actively opposed Indigenous suffrage. With the standardisation of enfranchisement rules for the Commonwealth jurisdiction in 1902 (*Commonwealth Franchise Act 1902*), white women's right to vote at the national level was enshrined. The Act, however, excluded 'aboriginal natives of Australia, Asia, Africa or the Islands of the Pacific except New Zealand', with the exception of those enabled by section 41. In WA this effectively meant that Indigenous people of both genders had to wait until 1962 for entitlement to enrol and vote in both federal and state elections.

Gaining formal decision-making power did not mean an end to women's social, political and economic disadvantage, even for white women. As well as ideas about race, ideas about proper gender roles and behaviour continued to be used to justify women's relative disadvantage. Women remained practically and ideologically aligned with the domestic sphere, at least until the First World War. Then, shortages of men for clerical duties provided a path for women into 'respectable'

employment. However, by 1920, women still constituted only eight per cent of the paid workforce.

Women's access to all aspects of the paid workforce ebbed and flowed. The Great Depression of 1929 saw public agitation for women to be removed from the paid workforce, making way for boys and men to return to their 'proper place'. In 1934 the state's public service generally ceased to employ married women. Regulations stated that 'unless her continuance in the office is required in the public interest, a female clerical officer upon her marriage shall resign'. However, in the course of the Second World War, arguments about women's place in the paid workforce changed once again. Women, including married women, were needed to keep public and private enterprise operating, at least until the war finished. The Women's Land Army, for instance, mobilised some six thousand Western Australian women into food production in 1942.

Although there was a move to push women back into the domestic sphere after the war, women nonetheless continued to chip away at male work bastions. By 1961, although women were no longer in the defence-associated roles of wartime, women comprised twenty-two per cent of the paid workforce, especially in clerical, commercial and service work. Teaching, with its child-based hours, attracted a growing number of women. In 1967, in the midst of an economic boom and in need of a new pool of employees, the state public service actively recruited women, including married women, and abolished its 'marriage bar'.

While women's access to paid employment generally increased from the early years of the twentieth century, their right to an equitable pay packet was another matter. When the notion of a 'basic wage' came into being in 1907 with the Commonwealth Harvester judgement, its calculation effectively deprived women of wage equity. The basic wage was determined as that which a man,

as breadwinner, would need to support himself, his wife and three children. The social organisation of work was such that men's work was more highly valued and men were understood as the rightful breadwinners. In 1912 the Commonwealth fruit-pickers' case determined that lower skilled work ('women's work') should be paid a lower rate than men's work, and that the basic rate for women doing 'women's work' would be seventy-five per cent of a man's wage. In 1919 the Australian Conciliation and Arbitration Commission determined that this would be fifty-four per cent, although it also awarded equal pay in some circumstances to ensure that women's lower wage rates did not cost men their jobs. It also determined that the basic male wage would assume that all men had dependants and that no woman did. Hence, regardless of actual circumstance, women continued to be paid at a lesser rate than men. Western Australia's basic wage in 1926, as established by the state's Arbitration Court, was four pounds and five shillings (£4 5s) per week for men and one pound five shillings (£1 5s) for women.

Unsurprisingly, wage inequity drew considerable protest. Feminists and their supporters held Equal Pay Week each year in Perth throughout the 1960s. In 1961 some Western Australian women workers, including police officers and members of parliament, were granted one hundred per cent of the male wage. In 1969 the Australian Conciliation and Arbitration Commission determined that there should be equal pay for equal work, but retained the practice of circumscribing work usually done by women. This could be paid at a rate less than for similar work done mostly by men. In 1972, however, the Commission recognised the principle of equal pay for work of equal worth, and in 1980 the WA Industrial Commission also set the same minimum wage rate (the old 'basic wage') for men and women. While formal measures have been taken to address the matter of pay inequity, however, Western Australian

women continue to earn less than men. In 2003, women received only 77 per cent of men's average weekly earnings.

Women continue to have primary responsibility for childcare and domestic duties so that the 'double shift' of paid work and unpaid domestic work continues. While the right to participate in public life is generally accepted, women's role as carers and nurturers often sees them having to decide between partners and family, and paid employment (including employment in public life). Women continue to take primary responsibility for domestic work.

The fight for gender equity clearly has a long history in Western Australia. The history of International Women's Day (IWD) activities in WA, for example, provides something of an overview of this. IWD was first celebrated in WA in 1936 but gained recognition in 1938. In that year, prominent identities such as journalist Irene Greenwood, pioneering medic Dr Roberta Jull, author and communist Katharine Susannah Prichard and lawyer Molly Kingston spoke at the Perth Town Hall event. Also present were representatives of the Women's Christian Temperance Union, the National Council of Women, Young Women's Christian Association, Labor Women, Women's International League for Peace and Freedom, the Movement Against War and Fascism, Mothers Union, Women's Section of Primary Producers Association, Young Labor League and the Spanish Relief Committee.

In the 1940s, IWD celebrations moved from town halls to the streets, making noisy and visible political statements. Anti-communist sentiment and activity in the 1950s, and the postwar refocus of womanhood back onto the domestic sphere, saw IWD turn to cultural rather than political matters. It also saw it largely return indoors. The 1960s, however, brought a focus on economic and social justice, with themes including 'Women and Their Work', and 'Women's Rights in a Changing Australia'.

The post Second World War period saw significant changes in women's social, economic and political opportunities. As well as increased participation in the paid workforce and public life, a significant number of women entered higher education. In addition, women's capacity to control fertility increased with the advent of the contraceptive pill in the late 1950s. All this encouraged a new surge of feminist activity in the 1970s. The WA division of the Women's Electoral Lobby (WEL) was formed in 1973 as a political lobby group representing a majority interest (51 per cent) of the population. It scrutinised election platforms, demanding a better deal for women. The women's liberation movement in Western Australia was a loose coalition of activist groups, including formal organisations like WEL and collective-based groups such as Women's Liberation at The University of Western Australia (also formed in 1973), the Women's Health and Community Centre and Nardine Women's Refuge (both formed in 1974).

Not only did the number of feminist and women's groups increase at this time but new forms of feminism also emerged. Like their counterparts of the 1940s, women took to the streets in both protest and celebration, demanding access to civil and political institutions and a re-conceptualisation of basic gender norms and concomitant social organisations. In International Women's Year in 1975, IWD's promotional pamphlet identified its theme as 'Women in the Home and Outside the Home', focusing on the issues of paid work, child care, rape, domestic violence, women's control of their own bodies and sexuality. In the 1970s and 1980s more feminist groups emerged, sometimes at odds with one another, but all working at changing gender relations. Significant gains were made in 1984, when the federal government enacted the *Sex Discrimination Act* and WA passed its *Equal Opportunity Act*. Both made discrimination on a variety of grounds, including gender, marital status and pregnancy, unlawful.

By the beginning of the twenty-first century, notions of proper womanhood have changed significantly. Nonetheless, a range of indicators on matters including pay inequity, domestic and caring work, and violence against women continue to point to the salience of gender in social organisation. **Reece Plunkett**

See also: Aboriginal women; Citizenship; Citizenship, Aboriginal; Domestic work; Equal opportunity legislation; Female suffrage; Feminist movements; Homosexuality; International Women's Day; Marriage and divorce; Men's movement; Women and political representation; Women's Christian Temperance Union; Women's Electoral Lobby; Women's refuges; Women's Service Guild; Work, paid; Workers

Further reading: P. Crawford and J. Skene (eds), *Women and citizenship: suffrage centenary: Studies in WA History*, 19 (1999); D. Davidson, *Women on the warpath: feminists of the first wave* (1997); S. M. Murray, *More than refuge: changing responses to domestic violence* (2002); Office for Women's Policy, *Women's report card: measuring women's progress* (2004)

Genealogical Society The Western Australian Genealogical Society (WAGS) was created as a non-profit volunteer organisation on New Year's Day 1979, some 150 years after Western Australia's colonisation. In 2004 society members exceeded 2,600. The aim of the society is to assist members in tracing their ancestors. Accordingly, the WAGS genealogical library possesses a large variety of genealogical books, journals and CDs, including family and local history material pertaining to all regions of Australia, the UK, and the world.

Since 1995 the society has transformed to meet the demands of its members and the wider genealogical community. For example, the Internet has become an integral part of the society's culture, with WAGS' fully functioning and interactive website having received over 65,000 visits since its establishment in April 1998. Additionally, ten previously affiliated country branches of WAGS became societies in their own right on 1 April 2000. Regular meetings about genealogical matters are organised by WAGS' many special interest groups, including the Swan River pioneers, convict, Victorian, Scottish and education and computer groups. WAGS' quarterly journal, *The Western Ancestor*, places Western Australian genealogy in societies all over the world. **Kylie J. Veale**

See also: Battye Library; Church of Jesus Christ of the Latter Day Saints; Royal Western Australian Historical Society; State Records Office

Geological history The Earth formed about 4,500 million years (m.y.) ago when the Solar System developed from a vast rotating disc of gas and dust. This summary traces the history of the ever-moving and evolving land masses that have joined to form Western Australia since those ancient times.

During the Archean Eon (more than 2,500 m.y. ago) three stable components of the Earth's crust became the geological foundation of our state. These thick crustal bodies are the Yilgarn, Pilbara and Kimberley cratons. The Pilbara and Yilgarn cratons contain some of the world's oldest rocks (3,800–3,500 m.y. old). Even older minerals, zircons up to 4,400 m.y. old, occur in the north-west Yilgarn. There is indirect evidence from these that oceans may have been present on Earth before about 4,300 m.y. ago. Microfossils, and thinly banded rocks (stromatolites) precipitated by them near Marble Bar, show that primitive microbial life existed here 3,500 m.y. ago. The rocks also preserve rare bitumen nodules, relics of some of the world's oldest oil. Remarkably, stromatolites and similar structures continue to grow today in Shark Bay and elsewhere.

The early Earth was hotter than now and lavas called komatiites, up to 500ºC hotter than Hawaiian basaltic lavas, erupted in the Yilgarn and Pilbara from columns of molten rock known as superplumes that tapped sources some 2,900 kilometres below. These komatiites contain nickel sulphide deposits at Kambalda and Agnew, and similar deposits were weathered to produce the giant Yilgarn nickel-laterite deposits. The superplumes also melted parts of the Earth's crust, producing widespread granites such as those exposed at Wave Rock. During the formation of this early continental crust, hot fluids deposited gold in the Yilgarn, especially in the Golden Mile at Kalgoorlie.

The Hamersley Basin, of late Archean to early Proterozoic age, represents deposition
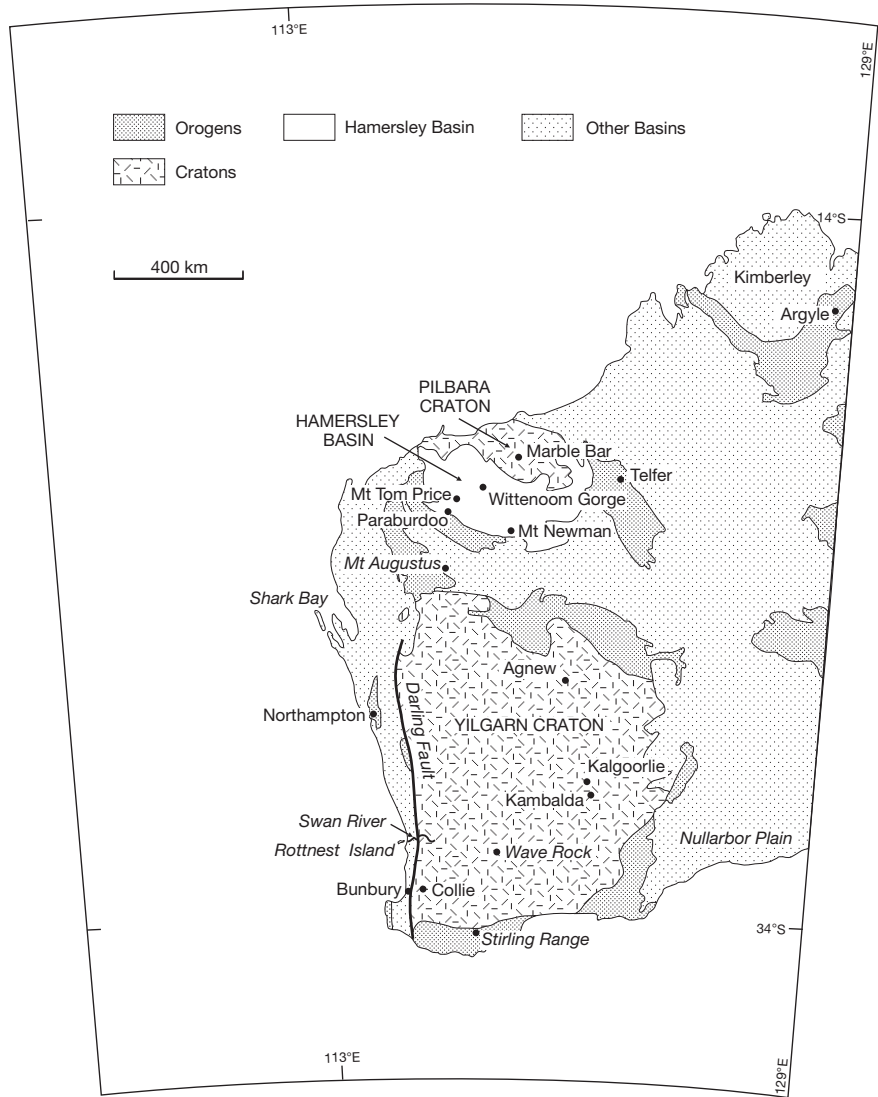
Map of Western Australia showing localities and geological features, based partly on Fig. 1.1, Geological Survey of Western Australia, *Memoir 3, 1990.*

at one of the oldest rifted continental margins on Earth. Sedimentary banded-iron formations, like those in Wittenoom Gorge, were later upgraded to the giant Pilbara iron ore resources at Newman, Paraburdoo and Tom Price. Large Proterozoic basins, developed over more than 1,000 m.y. of Earth's history, filled with sediments and covered the Archean basement. Fossils from one of these ancient basins in the Stirling Range suggest that soft-bodied animals developed some 1,800 m.y. ago, not 600 m.y. ago as once thought. Erosion of a Proterozoic sedimentary sequence produced the giant monolith at Mount Augustus in the Gascoyne region.

During the Proterozoic Eon (2,500–540 m.y. ago), what we now call Western Australia amalgamated through collisions between moving Archean and early Proterozoic continental blocks. Large mountain belts known as orogens were squeezed up between the Pilbara, Yilgarn and Kimberley cratons at various times, and between WA, India and Antarctica, but they were eroded down to their highly complex root zones. The first mining centre to be developed in WA, at Northampton, was based on lead deposits in these rocks. The giant Telfer gold deposit formed in Proterozoic rocks preserved closer to the Earth's surface. The diamond-bearing pipe at Argyle was intruded during this eon.

The beginning of the Phanerozoic Eon (which began 540 m.y. ago and continues through to the present) is marked by the evolution of marine animals with hard protective shells. Although there are few marine deposits of the earliest Phanerozoic exposed in WA, occasional marine incursions, volcanism, and folding and faulting continued during this time.

Probably about 430 m.y. ago, the great Darling Fault that stretches from Shark Bay to the south coast formed one margin of an elongate subsiding basin, which during the next 300 m.y. filled with as much as 15 kilometres of sedimentary rocks. About 400 m.y. ago, during the Devonian Period, a great barrier reef, now exposed in fossil form in the Kimberley, grew in warm invasive seas.

About 300 m.y. ago Australia was joined with South America, South Africa, Antarctica, New Zealand, parts of South-East Asia and Greater India in the super-continent of Gondwanaland. Australia was near the South Pole about 280 m.y. ago, and ice sheets carved new landscapes, leaving widespread glacial deposits. Fifteen m.y. after the ice melted, plant debris accumulated in swamps and formed coal at Collie and elsewhere.

Gondwanaland began breaking up about 155–135 m.y. ago along large rift valleys. Oil and gas that developed in the valley sediments were trapped by later folding. India pulled away, and lava erupted, for example the Bunbury Basalt in the South-West. By about 120 m.y. ago Australia had separated from Antarctica and began travelling north, with an isolated biota that developed into our unique Australian flora and fauna. Importantly, much of WA remained exposed to erosion and weathering after the glaciation of 280 m.y. ago. Between about 40 and 25 m.y. ago, warm wet conditions deeply weathered the surface rocks, impoverishing soils and forming widespread clay, nickel-laterite and bauxite deposits of economic importance. Our most recent volcanoes, 20 m.y. old, produced diamond-bearing lamproite pipes in the Kimberley. Shallow invading seas left behind the flat-lying Nullarbor limestone plain. Sporadic meteorite impacts, earthquakes and tsunamis helped shape our landscape as Australia slowly reached its present position and appearance.

At least 50,000 years ago, Aboriginal people entered the continent from the north, and Australia's megafauna suddenly decreased. Much of the world's water was being incorporated in polar ice and snow as the last ice age developed, and the sea level fell worldwide, exposing more land. In the Swan River area the coastline extended some 12 kilometres west of Rottnest about 18,000

years ago. Small bands of Aborigines roved the coastal plain, using flint and other rocks for tools. Then, as the climate warmed, the sea advanced to reach roughly its present position about 5,000 years ago.

European settlers were also influenced in their distribution and activities by climate and natural resources. Apart from the Swan River area they mainly settled in forested zones in the South-West, and where deposits of lead, gold and other minerals were being mined inland. Artesian water in areas underlain by sedimentary rock facilitated pastoral use of extensive arid tracts in the state. **John Glover and David Ian Groves**

See also: Base metals; Coal; Diamonds; Geology; Gold; Iron ore; Mining and mineral resources; Nickel; Oil and gas; Seismology

Geology The earliest observations on the geology of Western Australia were made by Louis Depuch and Charles Bailly, members of Baudin's expedition to New Holland in 1801; and by Charles Darwin at Albany in 1836; Joseph Jukes on a visit to the Swan River colony in 1843; and the Gregory brothers (Augustus, Francis and Henry) when they discovered coal at the Irwin River in 1846. However, systematic study of the geology of WA began in 1847, when Ferdinand von Sommer was appointed as government geologist to examine the coal and other mineral deposits in the south-western part of the colony. He travelled widely in that area and produced several maps and reports before leaving the colony in 1848.

The next temporary government geologists were H. Y. L. Brown (1870–72) and E. T. Hardman (1882–84). In the period between those appointments, the Rev. C. G. Nicolay acted as an unofficial adviser to the government on geology. In 1881 he set up a geological museum at the Fremantle convict establishment, thereby becoming the colony's first museum curator.

The appointment of Hardman was made despite spirited opposition from some members of the Legislative Assembly. However, their negative opinions on geology and geologists were not borne out by Hardman's achievements. His report on the geology of the East Kimberley district was largely responsible for the discovery of the first payable goldfield in the colony, at Halls Creek in 1885. Hardman's work clearly demonstrated the importance of geology to the exploration of Western Australia's mineral resources.

As a result of the Halls Creek gold find, John Forrest was determined to establish a permanent geological survey in the colony. However, his proposal encountered continuing opposition in the Legislative Council, certain members maintaining that future discoveries of mineral deposits would be made by prospectors alone, without the need for geologists. Forrest's view eventually prevailed, and the position of permanent government geologist was offered to Hardman. Unfortunately, before receiving the offer, Hardman died suddenly in Ireland. Consequently, another applicant for the position, H. P. Woodward, was appointed government geologist in 1887. He founded the Geological Survey of Western Australia (GSWA), the first scientific institution to be set up in the colony. Since then the basic mandate of the GSWA has remained essentially unchanged—to delineate the geology of WA in order to stimulate the discovery of mineral and petroleum resources and inform the public on geological issues.

Woodward held his position until 1895, when he left to join private enterprise during the gold boom of the 1890s. He was followed as government geologist and director of the GSWA by A. Gibb Maitland, who held the position from 1896 to 1926. During Maitland's long tenure, the science of geology advanced rapidly in Western Australia, and by the time of his retirement nearly half of the state had been geologically mapped at a scale of four miles to an inch—a remarkable

achievement. Maitland himself had partici-
pated in much of the fieldwork involved and
had written numerous publications on the
geology of the state.

Many outstanding geologists served under
Maitland, among the most notable being
E. S. Simpson, J. T. Jutson and H. W. B.
Talbot. Simpson is especially known for his
three-volume publication *Minerals of Western
Australia*; Jutson pioneered knowledge of the
geomorphology of WA; and Talbot led many
geological expeditions to remote parts of
the state.

Maitland was followed as government
geologist and director of the GSWA by
T. Blatchford, F. G. Forman, H. A. Ellis, J. H.
Lord, A. F. Trendall, P. E. Playford, P. Guj,
D. F. Blight, and T. J. Griffin. A milestone in
knowledge of the geology of WA was reached
in 1980, just prior to Lord's retirement,
when first-edition mapping of the state was
completed at a scale of 1:250,000.

Geology was a foundation department of
The University of Western Australia (UWA)
when it was set up in 1913. The first
professor of geology was W. G. Woolnough,
who held the position from 1913 to 1919.
Among the most notable staff who followed
Woolnough, mention can be made of E. de C.
Clarke, R. T. Prider, C. Teichert, P. G. Harris,
C. McA. Powell, D. I. Groves, B. E. Balme,
and J. J. E. Glover.

Western Mining Corporation, established
in 1933, was the first major mining company
in Western Australia to apply geoscientific
methods to the discovery of mineral deposits.
That company achieved considerable success
under D. Campbell, its first chief geologist,
and his successor, R. Woodall.

Exploration for petroleum in WA began in
the early 1900s, but little geology was applied
to this exploration until the Freney Kimberley
Oil Company commenced operations in the
Canning Basin during the 1920s, under
the direction of geologist A. Wade. Postwar
exploration for petroleum began when West
Australian Petroleum Pty Ltd (WAPET) was

founded in 1952. This company soon dis-
covered the first flowing oil in Australia, at
Rough Range in the Carnarvon Basin in 1953.
The Rough Range oilfield proved to be very
small, but the find aroused great enthusiasm
and resulted in a major increase in oil and
mineral exploration throughout Australia.

The early geological work by the GSWA,
UWA, WAPET, Western Mining, and several
exploration companies laid the foundations
for a major expansion in exploration for
minerals and petroleum. Since then, UWA,
Curtin University and the School of Mines
have continued to train many of the geosci-
entists who have played important roles in
the development of the state's minerals and
petroleum industries. Geoscientific work by
those tertiary institutions, the GSWA, the
Bureau of Mineral Resources (now Geoscience
Australia), CSIRO, and many exploration
companies, have made major contributions
to current knowledge of the state's geology.

Geoscience-based exploration during the
past fifty years has been responsible for the
discovery of most of the mineral deposits
and all of the oil and gas fields that have
been developed in WA. As a result of these
developments, the mineral and petroleum
industries now form the principal basis of the
state's economy, and WA ranks high among
the world's leading producers of iron ore,
alumina, diamonds, gold, mineral sands and
liquefied natural gas. **Phillip E. Playford**

See also: Diamonds; Geological history; Gold;
Iron ore; Mineral sands; Mining and mineral
resources; Oil and gas; School of Mines
Further reading: J. E. Glover, *Geological
journeys: from artifacts to zircon* (2003);
P. E. Playford, *The Geological Survey of
Western Australia: a survey of 100 years,
1888–1988* (1990)

Geraldton The port city of Geraldton is
located 424 kilometres north of Perth, on
Point Moore and adjoining the shores of

Champion Bay, which forms the best natural harbour on the west coast between Perth and Shark Bay. Evidence of human residence in the area dates back nearly 40,000 years, when the site of Geraldton was about 100 kilometres inland. The Aboriginal groups encountered in and around Geraldton by Europeans in the nineteenth century spoke various dialects of the Nhanda language. The original name for Geraldton is uncertain; however, Aboriginal people anglicised the name Champion Bay as Jampinu or Jampinpirri.

First encounters between European mariners of the Geraldton coastline and its Aboriginal population began in the early seventeenth century. European settlement was not considered feasible until Lieutenant George Grey made detailed observations of the area while leading his shipwrecked party overland towards Perth in April 1839. From 1840 onwards the Geraldton coast was referred to as Champion Bay, in honour of the colonial government vessel HMS *Champion*. Captain J. Lort Stokes' uncomplimentary report of 1841 heightened uncertainty about the area's potential. Between 1846 and 1848 a series of more extensive travels in the area by the Gregory brothers and others located coal and lead ore deposits, and confirmed the existence of good pasture and water sources in the region. The poor condition of Avon Valley pastures and general economic stagnation in 1848 added the final impetus for the establishment of a town at Champion Bay. The initial aim was to support the mining of the newly found lead ore. A ship-borne detachment of the 99th Regiment arrived at Champion Bay on 20 November 1849, two days ahead of an overland party led by assistant surveyor Augustus Gregory. Gregory surveyed the first town lots during January 1850, and per instructions from Surveyor General Roe named the townsite Geraldton in honour of then governor Charles Fitzgerald.

Towards the end of 1850 the first pastoral leases were established in the area. Lush pastures and good water sources led to rapid uptake of land, increase in herd sizes, and in turn to serious conflict with Aboriginal groups. The introduction of state-subsidised convict labour in 1850 brought economic and social expansion until transportation ceased in 1868. Economic development thereafter became erratic due to a lack of labour, capital and transport infrastructure as well as periodic droughts, floods and crop and livestock diseases.

By 1871 Geraldton had an estimated population of 500 Europeans and was gazetted as a municipality. In 1878 Western Australia's first steel-framed lighthouse was built there to mark the approach to the port, and the *Victorian Express* was published as the town's first newspaper. Then, in 1879, Western Australia's first government-owned railway was built to connect Geraldton to Northampton and the lead ore mine. Geraldton was eventually connected to Perth by railway in 1894. Following the discovery of gold in the Murchison in 1891–92, Geraldton became a maritime gateway for thousands of miners keen to move inland to seek their fortune. By 1900 the brewery, hotels, port, coffee palace and many shops made Geraldton the cosmopolitan centre of the region.

In 1907 the registered population had grown to 2,800. Japanese and Chinese immigrants arrived, mainly involved with market gardening, while Scandinavians and Italians established a fishing industry to service the goldfields. State-sponsored expansion of the local grain industry began in the early 1900s. Geraldton benefited from new farms, extensions to the railways and port improvements.

One early migrant was Monsignor J. C. Hawes (1876–1956), an architect turned Catholic priest who arrived from England in 1915. He designed and built Geraldton's Catholic cathedral in the Romanesque style between 1916 and 1938, as well as twenty-three other buildings in the region.

The 1930s Depression and the two world wars caused social and economic disruption to the town. During the Second World War,

Geraldton was the site of the Royal Australian Air Force number four air training school, and a port of call for the ill-fated HMAS *Sydney*, sunk in November 1941. Between the First World War and the late 1960s a tomato-growing industry developed to service markets in Singapore, Western and eastern Australia. Many of the farmers were Greek, Macedonian, Italian and Yugoslavian. In the immediate postwar era there was an influx of European migrants. Later arrivals included Vietnamese and Christmas Islanders. Postwar development focused on crayfishing, the continuing development of the pastoral and agricultural sector, mining and, later, tourism. Australia's first commercial shipment of iron ore was made from Geraldton in 1966.

In 1988 Geraldton was proclaimed a city by Queen Elizabeth II. It is now the Mid West region's commercial, administrative and service centre and principal port. Since 2001 the area has experienced major infrastructure development ensuring Geraldton continues to progress. Geraldton has produced many distinguished Western Australians in all walks of life, including the former Premier, Dr Geoff Gallop. Aboriginal people, although fewer in number within the town at the start of the twentieth century, today comprise a significant part of the city's population. **Adam Wolfe and Michael O'Connor**

See also: Exploration, land; Fishing, commercial; HMAS *Sydney*; Horticulture; Lighthouses; Mid West; Pastoralism; Second World War
Further reading: Local Studies Department, Geraldton Regional Library, *Geraldton: a photographic history* (2004); C. Norris, *Memories of Champion Bay or old Geraldton* (1989)

Germans The first German settlers, the Waldecks, arrived in Western Australia in 1836 and were naturalised in 1841, but, prior to this, German botanists (Baron Carl von Hügel, 1833, and Dr Johann August Ludwig Preiss, 1838) had also been instrumental in documenting Western Australia's flora. In general, German settlers were welcomed because of their expertise in vine cultivation and their reputation as hard workers. Despite the Waldecks' involvement in the running of a 'Natives Experimental Farm' in Wanneroo in the 1840s, missionary work with Aborigines by Lutheran migrants occurred only towards the end of the nineteenth century. In the north, the German Pallottine Brothers built a school at Beagle Bay which was attended by thirty Aboriginal children in 1901. While training the children in various trades, the Brothers encouraged them to retain their own language and customs.

Throughout the second half of the nineteenth century, people of German cultural origins constituted the largest non-English-speaking group in the colony. They tended to settle around Perth, Albany and Fremantle. From around 1887 the number of German farmers increased rapidly, due mainly to migration from South Australia and Victoria to Katanning and Narrogin. In 1891, there were 290 people born in Germany, as well as 29 Austro-Hungary-born and 15 Switzerland-born German speakers, registered as living in WA (census). The discovery of gold in the colony and the regular steamship link between Fremantle and Germany, established in 1897, were factors contributing to the seven-fold increase in German migration over the next twenty years; in 1911 there were 2,036 German-born, 1,280 Austro-Hungarian-born and 154 Switzerland-born registered in WA. One hundred and ninety-six Germans were naturalised between 1830 and 1903. Community integration was very successful; while schooling at St John's Lutheran Church in Fitzgerald Street, Perth (established 1903), and membership of the Fremantle German Club (1901–14) and the Lutheran churches in Kalgoorlie (1902) and Fremantle (1909) helped maintain the use of the German language.

Previous pro-German sentiments were drastically eroded in WA from 1914 onwards.

Many of the German–Jewish refugees who came to Australia between 1933 and 1939 were also greeted with hostility. During both the First and Second World Wars, many German-speakers were interned. Rottnest Camp housed 560 Austrians and 397 Germans in 1915. Over the following years use of the German language decreased rapidly, as even those German-speakers who stayed despite growing segregation and discrimination stopped using their mother tongue. Of a population of 330,000, only 1,000 identified themselves as having been born in Germany in the state's 1921 census. In 1936 St John's Evangelical Lutheran Church was built in Aberdeen Street in Perth to service what was a largely German congregation. Only 260 Germans remained in WA in 1942, and in 1947, when the state's population stood at roughly 413,000, it included only 656 Germans.

After the war, large groups of German migrants arrived in Fremantle under the 'Assisted Passage' scheme. Settling mainly in Perth, they supported the newly founded Goethe Society (1949) in large numbers and were instrumental in the establishment of German cultural clubs such as Rhein Donau in 1958 and Old Austria in 1970. By 1954 the numbers had grown to 5,361 persons, roughly five per cent of Western Australia's population, who gave Germany as their country of birth. After 1961 only West Germans had the opportunity to migrate, and from the 1960s migration of Germans to WA, and to Australia as a whole, declined as conditions in Germany improved. However, after the reunification of Germany in 1989, migration from both the former East and West became possible, leading to an increase in the number of German migrants in WA.

According to the 2001 census, 78 per cent of the 10,000-strong Germany-born population in WA resides in Perth. Moreover, some 20,000 Western Australians are second-generation ethnic Germans. In the 2006 census, 53,760 claimed German ancestry. As few of them have married German-speaking partners, however, there has been a noticeable decline in the use of German, although it remains one of the top ten most widely spoken languages in the Western Australian community. **Alexandra Ludewig**

See also: Botany; First World War; Internment; Lutheran church; Migrant ethnic associations; Migration; Missions; Prisoners of war; Second World War

Further reading: S-E. Khoo, 'A greater diversity of origin', in S-E. Khoo and P. McDonald (eds), *The transformation of Australia's population, 1970–2030* (2003); M. Mennicken-Coley, *The Germans in Western Australia: innovators, immigrants, internees* (1993)

Ghosts feature commonly in Western Australian folklore. In contrast to the beliefs of the state's Indigenous peoples, to whom the presence of supernatural beings was evidenced by features throughout the natural landscape, European colonists from 1829 held the souls of the deceased to be present only in specific locations in the built environment. As the pace of settlement hastened in the late nineteenth century, many buildings and structures acquired reputations as the scenes of supernatural activity, especially when such places were linked to real-life stories of human tragedy, unhappiness, violence or betrayal. In the first half of the twentieth century it was not unknown for ministers of religion to be called upon to perform séances to banish ghosts from their haunts; while in later decades semi-professional exorcists began to perform a similar role in the community. Over the years, old ghost stories have been revived or reinvented, thereby surviving to thrill new generations of Western Australians.

Of all the state's many paranormal icons, the old prison and old asylum at Fremantle are the most enduring, for the imposing architecture of these two grand colonial monuments has long been widely thought to

harbour restless spirits. Perth's Government House has also had its own resident ghost ever since a sensational murder at a ball in 1925. Other locations famous for night-time encounters with the unworldly include the bridge over the Murray River at Pinjarra, the old hospital at York, the Rottnest Island Lighthouse, the wreck of *Alkimos* north of Perth, a great many inns and hotels in the city and country, and even the new belltower by the Swan River, thanks to an age-old legend surrounding the curse of the bells of St Martins. At many of these places, 'ghost tours' catering to the tourist market have been established. **Joseph Christensen**

See also: Folklore
Further reading: M. Howard-Wright, *Eyewitness: ghostly encounters* (1991)

Girls Friendly Society The Girls Friendly Society (GFS) of Western Australia was officially established on 20 December 1888 by Mrs Eliza Salter, a GFS branch secretary from Croydon, London, and wife of a colonial government official, who had arrived in the colony in 1886. Affiliated with the Anglican church, the Society was founded in England in 1875 by Mary Elizabeth Townsend to assist young working girls through an organisation that provided support and encouraged Christian values. The Society began its Australian work in Adelaide in 1879.

From its inception the GFS WA was involved in social and religious events, charity work, migrant welcomes and setting up sick funds for members to receive respite care. As the GFS grew, conferences, exhibitions and festivals were also held. In 1914 a lodge was opened on Adelaide Terrace to provide accommodation for young women, and in 1926 the GFS established their state headquarters in the Celtic Club Building, Hay Street, Perth. However, when these premises became too small, the Adelaide Terrace Lodge was rebuilt in 1980 to provide a larger space for the

organisational aspects of the Society. Another lodge that opened in Fremantle in 1923 was sold during the Second World War.

From 1926 Western Australian GFS members organised their own 'Caravan Ministry', whereby members travelled in a caravan to remote areas of the state, holding Sunday School classes, visiting settlers and providing assistance to rectors. During the war years the GFS worked with the Red Cross, forming the GFS Red Cross emergency company. GFS has had links with the Perth Orphanage, Swan Homes and Parkerville Children's Home, organising social activities and financial aid for the children who resided there. Members have also provided support, in various ways, to residents in homes and hospitals around Perth.

The GFS now focuses on providing activities and services for young people and their families and the name has changed to 'GFS—An Anglican Ministry', to be more relevant to contemporary society. Some branches use the name 'KidsPlus', which operates under the auspices of GFS, though with a separate identity. **Anna Kesson**

See also: Anglican church; Migrant reception; Youth movements
Further reading: J. Seymour, *A century of challenge: a history of the Girls' Friendly Society in Western Australia from 1888–1988* (1988)

Gold transformed Western Australia's economy in the 1890s and remains one of the state's most important mineral resources. Western Australia's gold output represents approximately 75 per cent of Australia's total gold production, and about 8 per cent of the world total.

Gold rushes in eastern Australian colonies led to offers of reward for discovery by a private syndicate in 1854 and by the WA government in 1862. Finds were reported at various locations, but all proved inconsequential. In 1881, however, a prospecting party

found small quantities of gold in tributaries of the Ord River, prompting the WA government to attach a geologist, Edward Hardman, to Kimberley survey expeditions in 1883 and 1884. Hardman's reports confirmed the presence of gold and encouraged prospectors to depart for the north. In July 1885, Charles Hall and John Slattery were successful in striking payable gold at Halls Creek, sparking Western Australia's first significant gold rush. Production from the Kimberley goldfield (proclaimed in 1886) is not known because smuggling was common, but surface pickings were probably scarce and the rush was short-lived.

The long-term importance of the Halls Creek rush was that it established WA as a 'mining colony', attracting overseas and intercolonial investment. It also led to new gold discoveries elsewhere in WA through the dispersal of disillusioned diggers, many of them experienced prospectors from other colonies. By late 1887, major gold finds had been reported at locations in the Yilgarn and Pilbara districts, and both new goldfields were proclaimed in 1888. After 1890 the march of discovery accelerated spectacularly, with the Ashburton and Murchison goldfields proclaimed in 1890 and 1891 respectively. The impact on the newly self-governing colony was dramatic. Enhanced credit-worthiness enabled the Forrest government to embrace a comprehensive public works agenda, giving priority to railways, telegraph extension and harbour improvements.

The first organisation of mine workers in WA was a Miners' Association formed at Southern Cross on the Yilgarn goldfield in 1889. It soon lapsed, but a reconstituted union is known to have led a strike in the district in August 1891. Yilgarn mines were again closed because of a bitter industrial dispute when Bayley and Ford reported an exceptional gold discovery at Coolgardie in September 1892. Within days, most of the strikers had left for the extensive alluvial deposits and rich auriferous reefs further east. There was another discovery at Dundas

in November 1892 and, in June 1893, a stirring find east of Coolgardie at Kalgoorlie. The Coolgardie and Dundas goldfields were proclaimed in April 1894, and in December of that year, East Coolgardie was proclaimed with Kalgoorlie its administrative centre.

Supported by British capital, the gold boom continued throughout the 1890s. The value of production surpassed one million pounds for the first time in 1896 and exceeded five million pounds in 1899. In 1900, gold accounted for 81 per cent of the value of all WA exports. Between 1890 and 1895, the colony's population more than doubled, with most new arrivals coming from the depressed eastern colonies. In 1896 alone there were more than 35,000 net arrivals, increasing the total population by 36 per cent.

The gold rushes also irrevocably changed WA politics. Mining camps and towns were cradles for progressive ideas and the domination of 'ancient' colonists and landed interests was diminished. Without a pro-federation vote from the goldfields, populated largely by 't'othersiders', WA would have remained outside the Commonwealth in 1901.

In spite of further discoveries at Gwalia (1896), Wiluna (1896), Peak Hill (1897), the deep alluvial of Kanowna (1897), Donnybrook (1898), Phillips River (1899) and Bullfinch (1909), production declined after 1903 due to falling yields and the limitations

Miner with his barrow loaded off to a new gold rush, c. 1890s. Courtesy West Australian *(HIST3465)*

of mining technology and mineral processing. The WA gold industry fell into decline, with many mines closing, amalgamating or being leased to 'tributers', independent miners who paid production royalties to the mine owner. In 1921 output fell below 600,000 ounces, a figure first achieved in 1897 and exceeded in every subsequent year. In 1928 gold production was less than 400,000 ounces—one-fifth of the 1903 record. Even then, however, the gold yield contributed more than 75 per cent of the value of all mining production.

There was an upturn after 1930 as new metallurgical practices reduced treatment costs, making the extraction of lower-grade ores profitable. The federal government also announced a bounty on the production of gold, while favourable exchange rates and higher gold prices encouraged investment and accelerated the industry's modernisation. Although bounty payments were wound back owing to the depression, output soared between 1929 and 1934, and moribund mining centres again became hives of activity. Sustenance payments and other forms of assistance to prospectors further stimulated the revival and, in a decade of high unemployment, the number of men engaged in mining increased fourfold. Western Australia's biggest nugget, the 'Golden Eagle', weighed 32.177 kilograms and was found south-east of Coolgardie in 1931. The gold industry's revival cushioned some Western Australians from greater misery during the Depression.

The impact of the Second World War was appreciable. Shortages of labour and materials, delays in obtaining machinery, the requisitioning of power units from mines, and the introduction of a federal gold tax all took their toll, and many mines were forced to close. The WA government prevailed upon the Commonwealth to provide funds for the maintenance of machinery and underground workings, but the postwar outlook was bleak. Production costs had risen steeply while the gold price remained relatively stable, and

even a federal scheme to assist large mines, introduced in 1947, did little to revive gold's fortunes.

Gold production increased after 1950 and remained relatively stable for almost a decade after 1954, but unprecedented activity in other types of mining meant that gold's importance relative to other minerals declined significantly. By 1970 it ranked only fifth among the state's minerals by value of production. However, higher gold prices reversed the slide after 1975 and stimulated a new boom after 1980. Production increases were achieved by open-cut mining, selective mining techniques, sampling and grade control, and the use of new carbon-in-pulp extraction technology. Output reached an all-time high in 1986/87 and rose steeply over the next decade, reaching a peak of 7,662,660 ounces in 1997. In spite of a subsequent decline, the value of production was $2.93 billion in 2004 and the search for new reserves continued, with companies spending hundreds of millions of dollars on exploration annually. **Ken Spillman**

See also: Eastern Goldfields; Federal movement; Geology; Goldfields water supply; Halls Creek; Holland Track; Infrastructure and public works; Kalgoorlie–Boulder; Kimberley; Migration; Mining and mineral resources; Murchison; Perth Mint; Pilbara; Typhoid epidemics
Further reading: R. T. Prider (ed.), *Mining in Western Australia* (1979); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993)

Goldfields theatre in Western Australia has been dominated historically by Coolgardie, Kalgoorlie and Boulder, but smaller theatres existed at Esperance and Norseman, and companies such as the Flying Banvards toured as far afield as Broad Arrow and Sandstone in the 1890s. Theatre performances in Coolgardie from 1892 were makeshift affairs got up by

new arrivals in tents, shops, and on wagons in the street. By 1897 Coolgardie boasted its rudimentary Theatre Royal, New Tivoli Theatre and Cremorne Gardens. Harry Rickards paid his first visit to Coolgardie 1897, and the Wilkinson's Gaiety, Alfred Dampier and Ettie Williams professional companies toured there in the same year.

Kalgoorlie, for a brief time Coolgardie's poor neighbour, followed suit. From 1895, amateur indoor minstrel and play performances were given in Quigley's Hall and Solomon's Auction Mart. Having asserted its dominance as the regional railhead in 1896, Kalgoorlie displaced Coolgardie as the hub for companies touring the Eastern Goldfields. The Miners' Institute was Kalgoorlie's sole indoor venue until it was superseded by the Kalgoorlie Town Hall's purpose-built theatre in 1908. By then, Kalgoorlie's outdoor Cremorne Gardens and Tivoli Gardens were destinations for star variety artists, notably Harry Rickards' Tivoli Company. The Kalgoorlie Town Hall hosted touring professional companies and international celebrity artists until the Goldfields Arts Centre's theatre opened in 1993. The nearby Boulder Town Hall, graced by Philip Goatcher's magnificent drop curtain, also opened in 1908. Amateur productions of plays, minstrel shows, musicals and operettas were presented at both Town Halls into the 1970s. Early amateur groups such as the All Black Minstrels forged strong community links through benefit performances for miners' families.

With the decline of commercial theatre touring, Charles Gordon founded the amateur Goldfields Players in Kalgoorlie in 1931. In abeyance during the Second World War, the club was re-established by Frieda and Seddon Vincent as the Goldfields Repertory Club in 1946. The Goldfields Repertory Club retained its amateur spirit, conservative ethos and strong regional identity when Perth's metropolitan theatre culture was being professionalised and diversified. The Club has a strong production record of Australian and British plays, musical theatre, pantomime, classics and melodrama. It commissioned Heather Nimmo's musical play *A Touch of Midas* in 1985. The Club's own small theatre opened in 1950, but was destroyed by fire in 1972. The Club moved to its present theatre in 1976. **Bill Dunstone**

See also: Eastern Goldfields; Musical theatre; Theatre, amateur; Theatre and drama
Further reading: B. Dunstone, 'Western Australian provincial towns', in P. Parsons (ed.), with V. Chance, *Companion to theatre in Australia* (1995); I. King, 'Goldfields: Western Australia', in P. Parsons (ed.), with V. Chance, *The companion to theatre in Australia* (1995); M. Webb and A. Webb, *Golden destiny: The centenary history of Kalgoorlie-Boulder and the Eastern Goldfields of Western Australia* (1993)

Goldfields water supply The Goldfields Water Supply Scheme was built to supply potable water to Western Australia's eastern goldfields. Following the discovery of gold in the 1890s men flocked to this dry land in their thousands, Western Australia's population swelling from 50,000 to 200,000 in just ten years. Fresh water was scarce and people died of thirst or disease caused by unsanitary conditions.

Water was carted to the goldfields, bores were sunk and dams and condensers were built, but more was needed. Premier John Forrest's commitment to the construction of a water supply scheme to the goldfields, populated with 't'othersiders', was a bold political decision. At the time Perth itself did not have a reliable public water supply and it was known that goldfields could disappear almost overnight. Engineered by the brilliant Irishman C. Y. O'Connor, the scheme was announced in 1896.

Many believed it was not possible to pump water so far nor to a place higher than the original source and the pipeline was labelled 'a scheme of madness'. However, by dividing

Laying Pipes across the Darling Ranges – working on the goldfields water supply pipeline, 1902. Courtesy National Trust of Australia (WA).

the scheme into eight sections and utilising the recently invented rivetless locking bar pipe, O'Connor was able to move the water from the Darling Scarp to Kalgoorlie efficiently.

Work began early in 1898 and the scheme was opened five years later in January 1903. In the last years of construction O'Connor was dogged by public allegations of corruption, incompetence and extravagance, led by the editor of the *Sunday Times*, Frederick Vosper. O'Connor's deputy, T. C. Hodgson, was also embroiled in allegations of land deals. Without the political support of Sir John Forrest, who had moved into federal politics in 1901, O'Connor was vulnerable to these attacks and took his life on 10 March 1902, ten months before the scheme's completion. Despite continuing notions that he shot himself because the water failed to arrive, O'Connor's final note confirms his unfailing faith in his project: 'The Coolgardie Scheme is all right…'

Since its beginning, the scheme has continued to grow to meet the needs of the Wheatbelt as well as the goldfields. Electric stations have replaced the original eight steam pump stations but the essence of O'Connor's scheme can still be recognised in what is now a twenty-first century water supply scheme. In 2009 it is still the longest water pipeline in the world.

The Golden Pipeline, an initiative of The National Trust of Australia (WA), is a community-based project that aims to conserve and interpret the heritage elements of the Goldfields Water Supply Scheme. Through the sponsorship and support of the Water Corporation, the WA government and the Commonwealth government, the National Trust has been able to work with communities to develop one of the most important heritage projects in Australia. The Golden Pipeline brings together industrial heritage with natural and built heritage in a fascinating mix of stories, sites, information and experiences. The major element, the Golden Pipeline Heritage Trail, gives travellers the opportunity to better understand our relationship with the land from pre-European settlement through to the present using one of our most vital elements, water, as its central theme. **Anne Brake**

See also: Eastern Goldfields; Gold; National Trust of Australia (WA); *Sunday Times*; Tourism; Water management; Wheatbelt
Further reading: F. Alexander, F. K. Crowley and J. D. Legge, *The origins of the Eastern Goldfields water scheme in Western Australia: an exercise in the interpretation of historical evidence* (1954); A. G. Evans, *C. Y. O'Connor: his life and legacy* (2001); M. Tauman, *The chief: C. Y. O'Connor* (1978)

Golf The sport of golf began in Western Australia during the gold rush decade of the 1890s and the arrival of immigrants with golfing experience ensured that the sport continued to flourish. Competition ceased during the First World War but regained popularity thereafter. The development of golf during the 1920s was greatly assisted by the urban middle class, which had sufficient influence to finance the building of new private golf clubs.

Perth Golf Club opened in 1895. It was initially located on Burswood Island in the

Swan River, later moving to Belmont and then relocating to its present site in South Perth in 1908 where a fifteen-hole course was built. The Fremantle Golf Club was the second metropolitan club established in 1905. Cottesloe Golf Club was established in 1908, moving to its present site at Swanbourne in 1930. The Sea View Golf Club took over the original links site. The earliest clubs formed in country regions were at Albany and Coolgardie (1898), Kalgoorlie (1899), York, Beverley, Northam and Katanning (1901–02), and Busselton (1905), Pingelly (1911), Bunbury (1912) and Guildford (1914). Many new golf clubs were established in the late 1920s and early 1930s, including Mount Lawley, Mount Yokine and Lake Karrinyup (1930) and Nedlands (1934).

The Western Australian Golf Association (WAGA) had been founded in 1908, followed in 1914 by the Western Australian Ladies' Golf Union (LGU) formed by women from the Perth, Fremantle and Cottesloe clubs. The two associations selected the first state teams to play out of WA during 1934 and 1935, and the men's team, comprising four amateurs and two professionals, played at the centenary championship in Melbourne in November 1934. The WALGU became the Western Australian Ladies' Golf Association in 1984 and assumed its present name of Women's Golf Western Australia (WGWA) in 1995.

The Professional Golf Association (PGA) was established in Sydney in 1911. Its WA branch commenced in 1924 and held its first WA PGA championship in 1933. The WA PGA is responsible for holding all local professional golf tournaments in WA, except the WA Open, which traditionally is conducted by the WAGA.

WA has produced some of Australia's best players during the last four decades, including Graham Marsh, this state's most successful player. Other star players include Terry Gale, Craig Parry, Stephen Leaney, Greg Chalmers, Nick O'Hern, Jarrad Mosely and Brett Rumford. The best known WA women players are former Australian ladies' amateur champions

Maxine Bishop, Jane Leary and Helen Beatty, Shani Waugh, Tanya Holl, Helen Hopkins and Sarah Gautry. In 1951 Bishop became the first WA golfer (male or female) to win a national title, when she took out the Australian Ladies' Amateur Championship in Kooyonga, South Australia.

Participation in golf tournaments in WA continues to increase, and in mid 2005 the WAGA consisted of 212 clubs and 22,596 players, and the WGWA consisted of 230 clubs and 7,500 players. The PGA, the administrative body for the state's professional golfers, has a membership of 260. There are twenty-six public golf courses in the Perth metropolitan area, which are well-patronised by non-elite and recreational players. **David Marsh**

Further reading: J. Pollard, *Ampol's sporting records* (1973); B. Stoddart, 'Sport and society 1890–1940: a foray', in C. T. Stannage (ed.), *A new history of Western Australia* (1987); M. White, 'Western Australian golf in the nineteen thirties' in E. Jaggard and J. Ryan (eds), *Perspectives on sport and society: Studies in WA history*, 18 (1997)

Good Neighbour Council The Good Neighbour Council (GNC) was funded by the federal government in 1949 during the post Second World War immigration boom to promote the government's agenda of assimilation by coordinating the work of community groups associated with migrants at national level. A Western Australian branch was formed in November 1949. Its foundation members included various churches, the Red Cross Society and the Parents' and Citizens' Association.

The GNC aimed not only to assimilate 'new Australians', but to encourage the general public's 'good neighbourliness' towards migrants. It did this by founding GNC branches in places of high migrant settlement like Fremantle and Merredin; welcoming disembarking migrants with gifts and guides to Australia; endorsing visits to homes so as to increase contact with

migrant women; and via a publicity campaign that promoted the contribution of migrants to the development of Australia.

The GNC also enlisted the support of prominent people for its activities, such as Kathleen Baird of the Girl Guides Association, one of the founding members instrumental in its establishment; and John R. Huelin, GNC President, politician and prominent human rights activist.

The GNC became increasingly specialised, employing professional staff, and by the 1970s had successfully instigated a Migrant Advice Bureau, a Home Tutoring Scheme, an interpreter and translator service and, in 1976, an ethnic radio broadcast. However, in 1978, at the height of the multiculturalism era, the federal government announced that it would no longer fund the GNC, and thereafter funds were allocated directly to the ethnic communities. The WA branch was closed in 1979. **Kristy Bizzaca**

See also: Migrant reception; Migration
Further reading: K. Bizzaca, 'The Good Neighbour Council and postwar migration in Western Australia 1949–1955', Honours thesis, Murdoch University (1995); J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); N. Peters, *Milk and honey but no gold: postwar migration to Western Australia, 1945–1964* (2001)

Goonininup The country known as Goon-ininup lies at the foot of Mount Eliza (or Katta Geeninguny Bo—the hill to see afar) on the Derbal Yerrigan, the Swan River, near the city of Perth. Before the European arrival, local Aboriginal people gathered at this important place to carry on ceremonial law business. It was land of great spiritual significance, being the resting grounds of the *Wagyl*, the Creator. The Wagyl's presence was marked at Goonininup by three large round stones that were considered her eggs, but these were moved by colonists, an action which shocked Aboriginal people. The springs, now known as Kennedy's fountain, were a women's birthing place; further along the river was the men's camp.

On 5 October 1833 the importance of this land for Aboriginal people was recognised in the *Perth Gazette* and it was reserved 'to the service of the Native Tribes'. Soon after, the government established the Mount Eliza Native Institution (also known as the Perth Native Institution) on the site, but by 1879 a small brewery had been built there. Although Goonininup was an important ceremonial ground, the white laws of the time meant that, from 1927, Aboriginal people were excluded from the city unless they had a pass issued by the Department of Native Affairs, making it almost impossible to visit Goonininup. They did not have a voice to speak about their land and their rights.

In the 1980s various Perth business entrepreneurs, in addition to government enterprise, attempted to develop the old Swan Brewery site, but local Aboriginal people wanted the land restored to them, and requested that the buildings be demolished to make way for a parkland for all people to share. Even though the land was registered as an Aboriginal heritage site in 1985 under the state *Aboriginal Heritage Act*, this was not enough to stop the proposed redevelopment. The Nyoongar people felt anguish and despair at the failure of the government to recognise the importance of this land and respect it as the Wagyl's place that should not be disturbed.

A protest camp was set up at Goonininup to oppose development. Many thousands of people in Perth, Aboriginal and non-Aboriginal, supported the Nyoongar protest and, at one stage, rallied in their thousands. There were visitors from around the country, other Aboriginal people who recognised the Nyoongar struggle and the status of the *Wagyl*. Legal action was taken under state and federal laws, with some wins and some losses. For example, the then Federal Minister for Aboriginal Affairs, Gerry Hand, ordered in 1989 that a

permanent protection order be made over the site, but it was revoked a month later.

The redevelopment of the old Swan Brewery went ahead, resulting in exclusive residential apartments and restaurants. The government today does not recognise Goonininup as a place of importance for Aboriginal people. Still, Goonininup continues to be highly regarded by Nyoongar people and there are many reports and sightings of cultural life and activity that signify its spiritual significance of long ago. **Mingli Wanjurri Nnungala**

See also: Brewing and breweries; Native title; Perth Native Institution; Waakarl
Further reading: M. Ansara, *Always was, always will be: the sacred grounds of the Waugal, Kings Park, Perth, W.A* (1989); J. Gregory, *City of light* (2003)

Governors The office of governor is the oldest in the state's history and has evolved from one of absolute authority over a colonial citizenry to that of symbol and guardian of parliamentary democracy. The first governor of the Swan River colony, James Stirling (1829–32, 1834–39), established the machinery of government, administered justice, conducted exploration and allocated land grants, assisted from 1832 by a fully appointed Executive Council and Legislative Council. Although a partly elected legislature from 1870 provided

Government House, Perth, east and part of the northern facade, 1870s. Courtesy of National Trust of Australia (WA)

some check on gubernatorial power, it was not until the advent of 'responsible government' in 1890 that effective political power was transferred to an executive drawn from a fully elected legislature.

Federation of the Australian colonies in 1901 did not affect the formal status of state governors, although a few founding fathers of the constitution had favoured a subordination of the office to that of governor-general, as in Canada. Recognition of Australia's sovereignty by the Statute of Westminster (1931) did reduce the imperial agent role of state governors, but the states remained relics of the colonial era, quasi-sovereign monarchies with governors appointed by and reporting to the British government. This situation was not corrected until 1986, with passage of the *Australia Acts* by the British and Australian parliaments. Since then governors have enjoyed a full delegation of the Queen's powers.

No single constitutional document fully describes the formal powers or expected functions of a modern Western Australian governor, but the *Constitution Act 1889*, as amended, and Letters Patent issued by the Queen constituting the office (most recently revised in 1986), remain the two principal sources of authority. The office was 'entrenched' in the state Constitution by Sir Charles Court's government in 1978, preventing abolition of the governorship except by absolute majorities in each house of parliament, endorsed by popular referendum. No vote was taken at the 1998 Canberra Constitutional Convention on the future of state Crowns, but at the 1999 republic referendum 58.5 per cent of the state's electors opposed the proposal for abandonment of monarchy at the national level.

The modern state governor's duties have fallen under three broad headings—constitutional, ceremonial and community. By Westminster convention most of the constitutional duties are undertaken on a premier's formal advice (e.g. assenting to

legislation), but the reserve powers, uncodified and exercisable without advice, continue to be relevant in the event of a constitutional crisis or a hung parliament. In the first two decades of the twentieth century several governors refused their premiers' requests for a dissolution of the Assembly, but no such request has been rejected since 1916. The ultimate reserve power, dismissal of a premier, has never been exercised in WA, but some governors have been able to influence their premiers by taking advantage of the 'three rights' of the monarch—to be consulted, to encourage and to warn—and all have been required to chair Executive Council.

For more than forty years after the advent of responsible government the office of governor regularly attracted public criticism, principally from Labor parliamentarians. In 1904, 1908 and 1912 votes were carried in the Legislative Assembly to downgrade the role to lieutenant-governor, reduce the governor's salary or secure a local appointment. Further attempts were made during the Depression years to spare the state heavy expenditure on vice-regal representation, and between 1931 and 1947 state governments refused to accept a British appointee, settling for a local lieutenant-governor, Sir James Mitchell, who eventually became governor in 1948. Between 1931 and 1973 only three men held the title of Governor in Western Australia.

Although the first two postwar governors were British and of imperial outlook, public criticism was now seldom voiced, and each governor had his term extended. Two former Western Australians who had risen to senior rank in the British armed services were the next appointees, but in 1980 Premier Charles Court refused to nominate a resident Australian national, instead inviting Prince Philip to make the choice. Richard Trowbridge did not prove popular, but all four subsequent appointments were Australian, consistent with the well-established practice of other states. Two of the last three appointees—Michael

Jeffery and John Sanderson—have been Western Australian-born military leaders. The present governor, Ken Michael, is the son of Greek migrants, and the first of non-British background.

Locally recruited governors have placed less emphasis on their direct representation of the Queen and more on representing the Western Australian community to itself, helping unify society and articulating values and ideals. Recent governors have sometimes felt entitled to express personal views on issues of public interest in appropriate forums, while avoiding direct criticism of state government policy.

In Western Australia there have been no female governors. **Peter Boyce**

See also: Constitution; Empire, relations with; Foundation and early settlement; Parliament; Politics and government; Proclamation Day; Royal tours; Secession
Further reading: P. J. Boyce, 'The Governor and Parliament', in D. Black (ed.), *The House on the hill* (1991); P. J. Boyce, 'The Reserve Powers of State Governors', *UWA Law Review,* 24, 2 (1994); F. Burt, 'Monarchy or Republic—It's all in the Mind', *UWA Law Review*, 24, 1 (1994)

Graffiti Representing both an act of urban 'marking' and eventually a subcultural form, the history of graffiti in Western Australia has evolved from a mixed lineage of influences, including origins in traditional political slogans and French Situationist stencils of the 1960s.

There has been little research into the history of early graffiti in Western Australia. 'Graffiti culture', however, migrated through the media from the New York aerosol art of the late 1970s and early 1980s, attached to the breakdance explosion which arrived and later became popularised in the early to mid 1980s in Perth. Early influences included films *Beat Street*, *Breakdance*, the 'Rock

Steady Crew' breakdancers and Michael Jackson's video clips. Early proponents of Perth youth graffiti included the key figures of 'BJ', 'Deli', 'Dolby', and 'Ckid' (now 'Stormie'). By 1985 the book *Subway Art* was adopted as a 'style bible' for graffiti, offering a template for imitation but also proposing an important key idea: *do not copy, do your own thing instead*. Graffiti culture consisted of writing on surfaces in public space, both line-designs representing names ('tagging') and 'pieces' of more carefully produced aerosol art.

Other graffitists existing outside this youth culture were anti-smoking campaigner Fred Cole with his 'Fred says…' graffiti on billboards (mid 1980s), and the right-wing Australian Nationalists Movement, whose graffiti and posters vilified ethnic groups (2004).

Second-wave graffitists in the early 1990s, such as 'Battery', 'Ridla', 'Scribla' and 'Skribe', began a furious wave of tagging. This contributed to an anti-graffiti campaign launched by Richard Court's state Liberal government in September 1994, claiming an estimated $1 million as annual clean-up costs. A '24 hour' removal policy was implemented to discourage graffitists, with parallel legal urban-arts initiatives such as 'Beyond the Wall' encouraging youth to steer aerosol art towards sanctioned walls. After an expensive battle with graffitists during this period, a shift in approach was adopted by the incoming state Labor government from 2001. Since then local authorities have increasingly viewed legitimate mural art as a viable way of preventing nuisance graffiti.

Later evolution of graffiti culture from 2000 onwards has expanded to embrace more use of 'stencil' designs (as practised by prominent UK artist 'Banksy') and 'paste-up' paper designs. **Felena Alach and Jamie 'Stormie' Mills**

See also: Youth culture
Further reading: F. Alach, 'Spectacular youth

sub-cultures and urban space: appropriating a sense of autonomy' in J. Gregory (ed.), *Historical traces: Studies in WA History*, 17 (1997); and D. Palmer, 'In the anonymity of a murmur: graffiti and the construction of the past at Fremantle Prison' in J. Gregory (ed.), *Historical traces: Studies in WA History*, 17 (1997)

Great Southern The Great Southern region of Western Australia has a total land area of 40,528 square kilometres and 250 kilometres of coastline. It is about 1.6 per cent of the state's total area. The region consists of twelve local government areas: the City of Albany and the Shires of Denmark, Plantaganet, Cranbrook, Kojonup, Woodanilling, Katanning, Broomehill, Tambellup, Gnowangerup, Kent and Jerramungup. The majority of the region's approximately 55,000-strong population (2006) resides along the southern coast with over 50 per cent living in the City of Albany. The Shires of Denmark, Plantaganet and Jerramungup, located in the southern part of the region with access to the coast, make up approximately 20 per cent of the population. The historic town of Albany, the oldest European settlement in WA, is the administrative and commercial centre for the Great Southern and is the main port from which the majority of local products are shipped.

The Great Southern is part of the homelands of the South-West Aboriginal group known as the Nyoongar, which includes the smaller groups of the Minang, the Loneang and Koreng. Throughout this region are numerous Aboriginal artifact scatters, evidence of old campsites, water sources and food gathering places, including the significant site of stone fish traps in Oyster Harbour. A large number of the towns in the Great Southern take their names from local Aboriginal names: Kojonup, for example, comes from 'koja', meaning stone axe.

On 21 January 1827, a month after the arrival aboard the *Amity* of Major Edmund

Lockyer of the 57th Regiment, a British penal outpost was officially established at King George Sound. Originally known as 'Frederickstown' in honour of Frederick Augustus, Duke of York and Albany, the penal outpost was later named 'Albany' after King George Sound was incorporated into the Swan River colony in 1831. A track was made between the Swan River and King George Sound and in the late 1830s a military outpost was established between the two settlements at Kojonup. Here, a small outpost including a barracks was constructed on the banks of a freshwater spring that had been used by the local Aboriginal people. The still-extant 1854 simple stone structure of the former barracks, now known as Elverd's Cottage, is evidence of this colonial period. Kojonup became one of the first road boards to be created in the district in 1871.

In the 1850s Albany became the principal harbour for the colony when it was selected as its mail port and, subsequent to this, an improved road was constructed between Perth and Albany utilising convict labour. This route opened up the Great Southern region and saw the development of a number of industries, including sandalwood, farming and pastoralism. The sandalwood industry was at its most prosperous from the 1840s to the 1870s and often drew the first Europeans to the region; such was the case in Woodanilling, Tambellup, Gnowangerup and Kent. During this period the first pastoralists also came to the Great Southern. Improved access also brought the region's good grazing lands to the attention of larger landowners at places like York and Northam, and they began to send down their herds to graze in summer.

From the 1850s to the 1870s many farming and pastoral leases were taken up. Early settlers included Eljiah Quartermaine in Woodanilling (1851–52), George Cheyne (1850s) in Albany, the Moir family (1870s) in Gnowangerup, and the Egerton-Warburtons at Cranbrook (1857). A number of colonial homesteads still exist from this period,

providing evidence of the way the first white settlers made use of available resources for building materials. Two existing examples of this type of building, which utilised local clay for bricks, are Josiah and Ellen Norrish's 1873 homestead at Tambellup and Anthony Walton's 1862 'Wonnerup' at Cranbrook.

The opening of the Great Southern Railway from Beverley to Albany in June 1889 provided the next major impetus for the development of the region. A number of permanent townsites were gazetted in the vicinity of railway sidings, including those at Woodanilling in 1892, Tambellup in 1898, and at Broomehill in 1892. Broomehill's position along the rail route resulted in the relocation of businesses, etc., from Eticup, which had been an early pastoral settlement.

The Eastern Goldfields gold rushes of the early 1890s and the subsequent mass migration and increased prosperity experienced throughout much of WA also benefited the area, with the Great Southern region becoming one of the principal means of transport and communication to the area. The port at Albany was a major point of entry to the Eastern Goldfields. John Holland's track to Coolgardie in 1892–93 significantly reduced the time taken to access the goldfields, though it was soon eclipsed by improved rail networks.

During the 1890s and, in particular, the first decades of 1900s, many new commercial, public and private buildings were erected in the region's railway towns. Hotels, banks and stores tended to be constructed in the vicinity of the station or siding, thus forming a village-type central core. Many of these buildings still exist and indicate the importance of this period of development. Examples include the Tambellup Town Hall (1898), the substantial Jones Building (1911) in Broomehill, and the school (1912) and first town hall and offices (1915) in Nyabing, Kent.

While sandalwood cutting was no longer a major part of the local economy due to a decline in foreign markets, the timber industry

as a whole became increasingly important in the 1880s and 1890s. Large supplies of timber sleepers were needed for the railway lines, demand for timber materials grew as a result of the gold rushes, and the railway line itself made transportation of the timber from mill to port much easier. Various milling operations were established in areas such as Mount Barker, Plantaganet and, in 1895, at Denmark by the Millar Bros Company.

Katanning was also affected by the provision of the railway, but its growth was closely associated with agriculture. The cultivation of grains such as wheat, oat and barley led to the establishment of a mill in the 1890s in Katanning by F. H. Piesse, a prominent individual whose business activities had a marked influence on the area. The mill subsequently became a major employer and contributor to the local economy and its growth.

The first decade of the new century saw the consolidation of the agricultural industry in the region. Farming continued to spread throughout the area as further rail tracks were opened, such as the Gnowangerup to Ongerup railway in 1913. The two world wars and the Great Depression did not affect the region's industries, particularly agriculture, as much as other regions were affected. In fact, in the 1920s some areas of the Great Southern were targeted for the Returned Servicemen's and the Group Settlement schemes. In Denmark, for instance, approximately fifteen group settlements were formed to clear and farm the land in the region. A number of timber buildings dating from this time still remain standing in the western part of the Great Southern. A dairy farm was also established in Denmark by the Department of Agriculture in 1912 in order to advise new settlers about best practices to make their herds commercial.

The period after the Second World War was another time of growth and prosperity such as that experienced at the turn of the twentieth century. During this time, the state government earmarked parts of the region, including Rocky Gully/Mount Barker, for settlement,

and they were substantially developed. The Department of Agriculture encouraged the diversification of agricultural industry, which brought about an increase in fruit and vegetable production and the establishment of vineyards in the areas of Mount Barker and Denmark. Since the 1950s the fishing industry has also become a major activity along the Great Southern coast line, especially at Albany and its environs and at Bremer Bay, with the farming of products such as oysters, mussels and abalone. Improvements to Albany port in the period after the Second World War transformed it from a rural harbour to the principal regional port for the Great Southern. In 1952 a war service settlement was established at Jerramungup, which eventually led to the creation of a Shire Council on 1 July 1982 after it was annexed from the Gnowangerup local government.

Today, the dominant industries of the Great Southern Region are wool, broadacre farming (e.g. wheat, barley and canola), livestock, timber, horticulture, viticulture, fishing and, of course, tourism. Cultural tourism in particular has become an increasingly significant factor in the region's economy, with activities such as viticulture and ecotourism being major drawcards to the Great Southern.
Kristy Bizzaca

See also: Agriculture; Albany; Ecotourism; Fishing, commercial; Group settlement; Holland Track; Land settlement schemes; Railways; Timber industry; Tourism; Wine; Wool
Further reading: M. Bignell, *A place to meet: a history of the shire of Katanning, Western Australia* (1981); Denmark Historical Society, *Koorabup: special centenary issue: selections from Denmark's first century, 1895–1995* (1995); D. S. Garden, *Albany: a panorama of the Sound from 1827* (1977)

Great White Fleet The Great White Fleet's arrival in King George Sound on 11 September 1909, after its visits to Sydney and

Melbourne, was a source of great satisfaction for Albany. The opening of Fremantle Harbour and the loss of the Royal Mail port status had reduced Albany from the primary to the secondary port of Western Australia. The coaling stop of the Great White Fleet in 11–18 September, its only stop in Western Australia, reaffirmed the strategic importance of Albany.

Between December 1907 and February 1909, President Theodore Roosevelt had sent the sixteen battleships of the Atlantic Fleet of the United States Navy on a round-the-world voyage. The ships were painted a brilliant white, giving rise to the popular name. The voyage reflected American understanding of the strategic importance of a 'blue water' navy and of its own emerging world-power status.

Albany's enthusiastic reception of the fleet and sailors foreshadowed significant changes in Australia's defence relationships. The Americans had been invited to Australia by Prime Minister Alfred Deakin, over British objections. By August 1909 the foundations had been laid for the Royal Australian Navy. The technical innovations of the Great White Fleet would soon be superseded, initiating great changes in ship design and naval warfare culminating in the Second World War, when the American strategic connection became an ongoing reality. **Robert Mitchell**
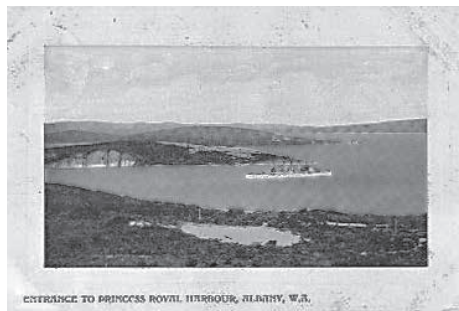
Postcard of the Great White Fleet anchored in King George Sound Albany 1909. Courtesy Albany Public Library

See also: Albany; Navy; USA, relations with
Further reading: N. Harper, *A great and powerful friend: a study of Australian American relations between 1900 and 1975* (1987); J. R. Reckner, *Teddy Roosevelt's Great White Fleet* (1988)

Greek Orthodox church In a formal sense Orthodoxy has been practised in Australia since 1898. Initially the Patriarchate of Jerusalem appointed the priests, but in 1902 the Church of Greece assumed the spiritual administration of the Greek Orthodox communities in eastern Australia. There was no Orthodox (Greek or otherwise) church or resident priest in WA during the first decade of the twentieth century. Visiting priests from Sydney and Melbourne fulfilled the religious needs of the local Greek populace, which numbered only 408 people at the 1911 census. In that year a cleric took up residence in Fremantle, though the source of his ecclesiastical authority is unclear. In March 1914 a duly appointed priest, Germanos Heliou (Illiou), settled in Perth.

Ten years later the Ecumenical Patriarchate of Constantinople resumed its rights over Greek Orthodox communities in Australia. The decision to assume control over the local Church was part of a 1922 tome. A Metropolitan, Christopher Knetes, was appointed, and he arrived in Australia in July 1924.

In WA the local Greek Orthodox community finally built a church, Saints Constantine and Helene, along Parker Street, Perth, in late 1936. A second Greek Orthodox church, the Annunciation of Our Lady (Evangelismos), was established in December 1958. (The church, an old Anglican edifice in West Perth, was later rebuilt in accordance with Orthodox tradition during 1970.) In 1959 a new Archbishop was appointed to Australia whose advocacy of the so-called 'American System' accentuated rifts between church and laity, particularly in the eastern states.

His successor, Archbishop Stylianos Harkianakis, appointed in 1975, and who remains the primate of the Church in Australia, pursued a similar policy. However, the schism that erupted between community-based and archdiocesan churches in the east did not develop in WA. In 1989 an archdiocesan church, Saint Nektarios, was constructed in Dianella.

In 2006 there were 25,169 adherents of the Greek Orthodox Church, approximately 1.3 per cent of the total population. Two Greek Orthodox churches exist outside of the Perth metropolitan area: St Nicholas at Bunbury and the Church of the Archangels Michael and Gabriel in Geraldton. **John N. Yiannakis**

See also: Greeks; Spirituality and religion
Further reading: A. M. Tamis, *The immigration and settlement of Macedonian Greeks in Australia* (1994); J. Yiannakis, *Megisti in the antipodes* (1996)

Greeks have been arriving in Western Australia for over 130 years. Until recently it was accepted that the first Greek to settle in WA was Arthur Auguste (Athanasios Avgoustis) from the remote Aegean island of Castellorizo. However, other Greeks had arrived in the colony before Auguste, including Antoni Fossilo (Phasoulas), who 'jumped ship' at Albany in 1870. Large numbers of Greeks, predominantly males, came to WA during the 1890s, lured by the Yilgarn gold discoveries. The majority of these early sojourners came from the eastern colonies rather than directly from Greece. It was migrants from the remote Aegean island of Castellorizo, however, who established large migration chains that allowed them to become numerically and politically dominant within the state's Greek community until at least the late 1960s. By then, immigrants from the Greek mainland and larger islands, rather than those from the Asia Minor coast and neighbouring islands,

had come to dominate the cohort of Greek arrivals.

Greater numbers of Greek immigrants entered WA, and Australia generally, after 1947, particularly following the 1952 Intergovernmental Committee for European Migration (ICEM) agreement reached between the Greek and Australian governments. Most, however, continued to arrive unassisted. Economic and political factors remained the principal reasons for migration. By 1978 Greek migration to WA waned considerably, with the exception of Cypriots following the 1974 Turkish invasion, and Greeks from South Africa during the 1990s.

Greek immigrants to WA, especially in the first half of the twentieth century, encountered considerable xenophobia from the locally born Anglo-Celtic population. Resentment against Greeks and other non-British nationalities manifested itself in various forms of institutional and everyday racism, ranging from physical and verbal abuse to non-recognition of qualifications, and riots.

Though the majority of Greek immigrants have always settled in Perth, they could be found scattered across the state in large centres like Bunbury, Geraldton, Kalgoorlie and Karratha, as well as smaller localities such as Pingelly, Three Springs, Cue and Wagin. Within the metropolitan area, early arrivals resided in the Northbridge area close to places of work and the Greek Orthodox Church and Hellenic Hall. Various pan-Hellenic and regional associations were formed to cater for the social, cultural and sporting needs of pre- and post-war Greek migrants and their descendants. Most Greeks entered the catering industry, with others working in country districts clearing land, cutting sleepers, etc. Over time, as socioeconomic mobility progressed, residency patterns altered; in 2001, the local government area of Stirling, which takes in suburbs such as Yokine and Dianella, had the largest concentration of persons born in Greece. Many Australian-born Greeks have entered the professions, though a significant

number remain in small business. As long-standing and successful migrants, Greeks rightly claim that their contributions to WA in the economic, business, educational, public service, sporting, cultural and other sectors have been significant.

The 2006 census identified 3,026 Greece-born persons living in the state, a total that has been in decline since 1976, when it was 6,239. (Compare this with the 148 recorded in 1901, of whom only two were female.) This recent figure does not include Greeks born outside Greece, second, third and later generations of Greeks. The 2006 census did, however, include an ancestry question that encompasses some of these latter categories, and at the census 13,190 persons gave their ancestry as Greek. **John N. Yiannakis**

See also: Entrepreneurs, immigrant; Greek Orthodox church; Migrant ethnic associations; Migration

Further reading: R. Appleyard and J. N. Yiannakis, *Greek pioneers in Western Australia* (2002); H. Gilchrist, *Australians and Greeks*, 1–3 (1992); J. Yiannakis, *Megisti in the antipodes* (1996)

Greenough is a rural farming community located on fertile flats stretching approximately 12 to 25 kilometres south of Geraldton. The name of the flats, town and shire derive from the Greenough River. In 1839, Captain George Grey named the present-day Chapman River the 'Greenough River' after Sir George Greenough, President of the Royal Geographical Society. During an expedition in 1846, Augustus Gregory mistook Grey's positioning of the rivers along the Batavia Coast. He charted Grey's Greenough River as the Chapman River and Grey's Irwin River as the Greenough River. This accidental renaming remains extant.

The fertility of the Greenough Flats was such that, prior to documented colonial settlement in 1850, the area sustained a relatively

Greenough former Road Board Office, 1981, photographed by Ali Sharr. Courtesy Heritage Council of WA (P01159)

large Aboriginal population, whose numbers were dramatically and rapidly reduced by the destructive impact of colonial settlement, mainly through disease and frontier conflict. Many Aboriginal people were wiped out by influenza, measles and smallpox. In 1854 Resident Magistrate William Burges informed the Colonial Secretary that Greenough's Aboriginal people had made 'determined resistance' to his attempts to suppress their 'repeated aggressions'. He therefore ordered Police Superintendent John Drummond to seek the armed support of settlers. In June 1854 Drummond led an armed party of mounted police and settlers against a large Aboriginal encampment at the Greenough River mouth, effectively ending local Aboriginal resistance.

Pastoralists and shepherds were the first colonial settlers, followed by convicts, farmers and subsidiary commercial interests. The colonial government established a village for Pensioner Guards in 1857, heralding Greenough's transformation from a pastoral to an agricultural community. By the 1860s Greenough had become the leading producer of grain in Western Australia and earned for itself the title 'Granary of the Colony'.

Convicts cleared much of the land and built roads. Ticket-of-leave men erected and worked in many of the early commercial and

civic buildings, including the Greenough Steam Mill (1858), Maley's Mill (1861), and the Hampton Hotel (1863). George Shenton (1811–67) encouraged fellow Methodists to settle, and the sprawling community that evolved in the 1860s had a distinctly Methodist character. Leading Methodists established a mechanics' institute (1865), chapel (1867), school (1868), temperance society (1874) and several businesses.

In 1888 a flood devastated Greenough, costing four lives and destroying or severely damaging most homes and businesses. Because Greenough was not built to a town plan it did not have the cohesion necessary to withstand such natural disasters. In the three decades that followed the flood, the civic and commercial infrastructure atrophied, but agricultural enterprises survived. Central Greenough's historic buildings are a reminder of the attempt to rebuild the civic centre after the flood. The emphasis on the establishment of religious institutions, after 1888, is symbolic of the belief in restoring a covenant with God after the great flood.

Central Greenough has national heritage significance; the 'hamlet' and most of its buildings are listed on the Register of the National Estate. **Simon Stevens**

See also: Convicts; Geraldton; National Trust of Australia (WA); Pensioner guards
Further reading: M. A. Bain, *Ancient landmarks: a social and economic history of the Victoria district of Western Australia, 1839–1894* (1975); S. P. Stevens, 'Colonial Life in Greenough', PhD thesis, Curtin University (2006)

Greens Party The Greens (WA) is a registered political party, one of a loose global network of Green political parties who share many common principles. The four core pillars of the Greens (WA) are: social justice; ecological sustainability; peace and disarmament; and participatory democracy.

In 1988 the Alternative Coalition, Green Development and the Green Party all stood candidates in the first state election following the introduction of region-based proportional representation in the WA Legislative Council. Uranium mining and possible pollution from a petrochemical plant were important factors behind running Green candidates in that election, but public support was insufficient to secure seats in the Legislative Council. Subsequently, the Greens (WA) formed in January 1990, following the amalgamation of the WA Green Party and the Green Earth Alliance, itself the result of the merging of the Alternative Coalition, the Vallentine Peace Group and Green Development. (Jo Vallentine was first elected to the Senate in 1984 for the Nuclear Disarmament Party and later became the world's first independent Senator for Nuclear Disarmament.) The Greens' (WA) first official electoral success was Jo Vallentine's re-election to the Senate in 1990 as the first Greens (WA) Senator. Jo retired due to ill health in 1992 and was replaced by Greens member Christabel Chamarette (1992–96). Other Greens Senators have been Dee Margetts (1993–99), Rachel Siewert (2004–) and Scott Ludlam (2008–). In October 2003 the Greens (WA) joined the confederation of Australian Greens, joining Australian Greens colleagues in the Senate.

At the state political level a number of Greens have been elected to the WA Legislative Council: Jim Scott (South Metro, 1993–2005), Giz Watson (North Metro, 1997–), Dr Christine Sharp (South-West, 1997–2005), Robin Chapple (Mining and Pastoral region, 2001–05), Dee Margetts (Agricultural region, 2001–05) and Paul Llewellyn (2005–).

Greens politics attempt to bridge the gap between activism and political representation. Party decisions are taken at local level by consensus processes. The Greens have a growing membership base but not all Greens supporters feel the need to be formally involved in the political process. The WA Greens political

influence has been on issues like peace and nuclear disarmament, globalisation, social justice, forests and climate change; and they have played a role in the balance of power at federal level (1993–96) and state level (2001–). **Dee Margetts**

See also: Conservation and environmentalism; Federal politicians; Parliament; Politics and government

Greyhound racing had been initially outlawed in WA under the 1927 *Racing Restrictions Act*, but demand for the sport gained momentum in 1970. Many enthusiasts had already purchased breeding and racing stock from the eastern states, where greyhound racing had been popular from the 1920s, in the hope that formalised racing would be legalised. The *Greyhound Racing Control Act* was passed in 1972 and the Greyhound Racing Control Board (GRCB) formed.

In 1973 the GRCB awarded the license to conduct races to the Canning Greyhound Racing Association. The Cannington Showgrounds was the first metropolitan racing track used in WA and its first race meeting was held on 12 December 1974. The Mandurah Greyhound Racing Association was officially opened in 1979, and the Avon Valley Greyhound Racing Association (though established before the Canning association) conducted its first official race in 1996.

On 1 August 2003, Racing and Wagering Western Australia became the controlling authority of greyhound racing in WA. **Jane Leong**

See also: Gambling

'Gribble affair' The Gribble affair refers to the sensation surrounding the Rev. J. B. Gribble and a libel suit against the proprietors of *The West Australian* at the Supreme Court in May 1887.

John Gribble was born at Redruth, Cornwall, in 1847, and a year later accompanied his parents to South Australia. As a young man he preached in the goldfields towns of Victoria and was a minister at Jerilderie when the town was held up by the Kelly gang. In 1880 he founded the Anglican Warangesda Mission in New South Wales, and in 1885 Bishop Parry of Perth accepted his offer and appointed him a missionary to the Gascoyne. After rejecting sites near Kennedy Range and Mt Dalgety, Gribble established Galilie Mission on the outskirts of Carnarvon. Most of the Aborigines were already assigned to masters and his ranting style of preaching and sympathy for the Aborigines alienated the small white congregation.

Gribble's diary of his pastoral tour of Gascoyne sheep stations was printed in the Perth *Inquirer* and *The West Australian* and later published as a small booklet. He claimed that a state of slavery existed in the North-West, Aboriginal women were used as sexual objects, and the conditions for Aboriginal prisoners were terrible. At Carnarvon he was boycotted by the settlers, and while travelling to Fremantle on the coastal ship *Natal* he was assaulted by other passengers.

Many pastoralists and influential people of Perth, including Winthrop Hackett and Charles Harper, the proprietors of *The West Australian,* were angered by Gribble's claims. At the time of the 'Gribble affair' the Anglican Cathedral was under construction and wealthy contributors to the cathedral fund, including Hackett and Harper, withheld their support in protest, forcing Parry and Dean Geggs to intervene.

In 1886, Gribble's missionary licence was cancelled, on the pretext that he had left the district without church permission, and the mission was closed. Leaving his large family at Bayswater, Gribble went to Victoria and New South Wales where he told rapt audiences of the alleged abuses. The meetings were reported in detail in the eastern press and

The West Australian responded on 24 August 1886 by denouncing him as 'a lying, canting humbug'. Gribble sued the proprietors for libel and engaged Mr R. S. Haynes. Hackett and Harper were represented by Alfred Hensman.

Under cross-examination Gribble was forced to admit that much of his journal was hearsay. He had no proof and no credible witnesses. He lost the case and, reduced to poverty, he accepted the offer by friends to pay passage to New South Wales for himself and his family. In 1891 he again heard the call and, leaving his family to the mercies of God and friends, Gribble sailed to North Queensland where he founded Yarrabah Mission. His time there was short and illness forced his return to Sydney, where he died on 3 June 1893. **Neville Green**

See also: Aboriginal labour; Massacre, Forrest River; Missions
Further reading: N. Green, 'Aborigines and White Settlers in the nineteenth century', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); J. B. Gribble, *Dark deeds in a sunny land* (1987)

Group settlement was an ambitious scheme launched in 1921 by Premier James Mitchell to establish a dairy industry in the state's South-West. Following the expansion of the Wheatbelt through the Soldier Settlement Scheme, Mitchell (soon nicknamed 'Moo-cow') targeted the South-West with its reliable rainfall as ideal for dairying. Tall timber was thought to mean fertile soils.

Rather than settlers working in isolation, it was intended that groups of twenty families would transform forest land into farms, making the state self-sufficient in milk, cheese and butter. Group Settlement 1, with mainly Australians or migrants of some years standing, was established at Manjimup in May 1921. The scheme spread rapidly, with over thirty groups under way by March

1922. Blocks were surveyed by the Lands and Surveys Department and prospective settlers applied via its Selection Branch. Settlers initially lived in humpies in a group camp while men were paid up to ten shillings a day to develop each 160-acre block.

Under the 1923 Migration Agreement between the Western Australian, Commonwealth and British governments, which funded the scheme, at least twenty-five acres (or sufficient to support a settler) had to be cleared ready for ploughing, a well sunk, plus fences and a permanent cottage and outbuildings erected. Western Australia committed to establish 6,000 men, selected from up to 75,000 new migrants from the UK, on 6,000 farms within a five-year period. The Commonwealth government raised loans of nearly £6 million to cover the costs, Australia and Britain each agreeing to pay one-third of the interest on the loans. Settlers were to repay up to £1,000 each, over thirty years, for the cost of establishing their blocks.

Advertising campaigns lured British migrants hoping to escape hardship in postwar Britain. Thousands were drawn by the promise of fertile land, English-style farms and a paradise of orchards and herds of healthy cattle. By June 1925, there were 127 groups in operation from the Peel Inlet through to Manjimup, Pemberton, Northcliffe and Busselton, to Margaret River, Augusta and Denmark. However, hope turned to despair. Whether migrant or locally born, few settlers had farm experience and most were daunted by the need to clear towering hardwood forests of karri, marri and jarrah. They worked long hours, battling to make a living from cream cheques, improvising with home grown vegetables, quokka, parrot or possum pie, their children in flour-bag clothes and bare feet. Poor soil, inferior stock and primitive conditions forced 30 per cent of migrants and 42 per cent of Australians to walk off their properties by April 1924. Following Royal Commission recommendations, in 1925 the scheme was abandoned,

Group settlement

but soon resumed with more settlements in Northcliffe, Busselton and Manjimup. The last group settlement established was in May 1928 at Northcliffe.

In 1930 government support was withdrawn. The scheme withered, a £3 million experiment conducted at the financial expense of the state's taxpayers and the spiritual expense of the settlers. A fall in dairy prices during the Depression caused more settlers to abandon their farms, unable to pay debts to the Agricultural Bank. Over 100,000 acres had been cleared, but group settlement was a failure. **Valerie Everett**

See also: Dairying; English immigrants; Environment; First World War; Land clearing; Migration; Peel Estate scheme; Repatriation; South-West
Further reading: P. E. M. Blond, *A tribute to the group settlers* (1987); L. C. Burton, *Barefoot in the creek* (1997); J. P. Gabbedy, *Group settlement*, 1 and 2 (1988)

Guano, a rich natural manure consisting of bird droppings and other organic materials, was harvested on the islands in the Houtman Abrolhos and Shark Bay in the early 1850s. By the mid 1870s large deposits were being worked further north, especially on Browse and the Lacepede Islands. Where possible the colonial government imposed a levy in order to raise revenues. As the known beds became depleted, the industry went into decline until 1883, when Charles Broadhurst found extensive new deposits on the Abrolhos. Granted sole rights, he formed the firm of Broadhurst, MacNeil and Company, and by 1886 had accommodation huts, a large guano store, tramways and a stone jetty from which 'lighters' would transport the bagged product out to waiting ships. Initially in financial difficulties, the venture flourished after Broadhurst's son Florance brought his mercantile expertise to the firm. By 1890 around 30,000 tonnes had been shipped, much of it to Europe, and in

Guides Western Australia

1894, Florance Broadhurst took full control, greatly expanding the infrastructure on the islands, the exports, profits and government revenue.

As overseas imports of better quality guano and then superphosphate rose around 1910, the Abrolhos industry became uneconomic. Exacerbated by the manufacture of superphosphate by local firms, the decline was only interrupted when shortages were experienced during both world wars. **Michael McCarthy**

See also: Agriculture; Islands; Mining and mineral resources; Wheat; Wheatbelt
Further reading: M. McCarthy, 'Failure and success: the Broadhursts and the Abrolhos Islands Guano industry', in F. Broeze (ed.), *Private enterprise, government and society: Studies in WA History*, 13 (1992)

Guides Western Australia, formerly the Girl Guide Association of Western Australia, is a member of a worldwide community-focused organisation for girls and young women. Members are bound together by their Promise of loyalty and service. Originating in Britain in 1909 alongside scouting for boys, the first Western Australian group appeared in Albany in 1910, led by Miss Selby Loundes, followed shortly by a group in Boulder.

Following a public meeting in the Perth Town Hall in June 1915, and with the support of the governor Sir Harry Barron, community leaders and the churches, groups were soon established in Perth, Cottesloe, Subiaco, Lion Mill (now Mount Helena), Bunbury and Collie. WA has the distinction of unbroken Guiding from 1915. Guide units have also formed in WA with members from other cultures, including Polish, Greek, Turkish Muslim and Jewish. From the 1970s an Aboriginal Outreach program took Guiding statewide to Aboriginal groups. In Australia (and WA) the older-style organisation of units into Brownies (younger girls), Guides (younger

teenagers) and Rangers (older teenagers) has been replaced by an all-age program, commencing from age five. The Olave Program provides for women aged 18 to 30 years

The concept underlying Guiding is service. Fundraising and community service occurred through Willing Shilling and Busy Bee, care of bottle banks and phone boxes. The establishment of Radio Lollipop at Princess Margaret Hospital was a Guide initiative recognising the seventy-fifth year of world Guiding and the International Year of Youth. Conservation has always been emphasised and the collection of cork for recycling is an ongoing project. Guide units take part in Keep Australia Beautiful and Clean Up Australia campaigns and learn appreciation of the environment through activities such as hiking and camping. National emergencies have enabled Guides to turn to activities such as knitting squares, collecting books for sailors and silver paper for fundraising, and caring for children. Following the Second World War, four Guiding women from WA assisted overseas in rehabilitating displaced people through the Guide International Service in Europe and Malaysia.

While members pay an annual subscription to cover insurance and a percentage of running costs, Guides Western Australia depends on government grants and the support of Lotterywest.

Icons of Western Australian Guiding have been the campsites of Seaward in Swanbourne, Paxwold at Lesmurdie, Our Barn in York and May Yates at Busselton. State, interstate and international camps always bring an enthusiastic response. **Margaret J. Luckett**

See also: Lotteries; Scouting; Youth movements
Further reading: J. Miller, *Promises made & promises kept: a history of guiding in Western Australia* (2000)

Guildford was established in 1829 as one of the first towns in the Swan River colony.

It was named by Lieutenant-Governor James Stirling, after his father-in-law's electorate in Surrey, England. The governor's own land grant of Woodbridge, sited to the east of the town boundary, was named after his wife's birthplace and family home. Located on a small peninsula of land, upstream from Perth and Fremantle at the confluence of the Swan and Helena Rivers, Guildford was ideally suited as a port and was planned as a market centre for the agricultural hinterlands. Development occurred on an east–west spine of high land, defined and limited by flood-prone land that accounted for 50 per cent of the total land area.

Guildford was planned with a central town square, surrounded by streets in grid plan. Four areas of commonage or public grazing were sited in the flood plain.

The advent of penal labour in 1850 saw the establishment of a convict depot in Guildford, construction of roads, bridges and fine public buildings in traditional Georgian style. The town was declared a municipality in 1871 and granted its own crest of anchor, sheaf and grapes. The Eastern Railway of 1881 bisected the town, leading to a decline in the port transport and associated commercial centre. A new business hub developed in the 1880s and 1890s adjacent to the main railway station. The railway also provided the opportunity for professional and business persons to commute to the city. This new middle class redeveloped riverine allotments with grand homes, reflecting the wealth and architectural style of the gold-boom period, while central town lots were subdivided into smaller blocks for workers' cottages.

Today, Guildford is noted for its fine range of colonial building styles and distinctive landscape features including street trees, gardens and natural parklands. It is the only town in the metropolitan area to be classified by the National Trust of Australia (WA). Guildford no longer holds municipal status; in 1960 it amalgamated with the Swan Roads Board (Swan-Guildford Council) and in 1970

combined with the Municipality of Midland to form the Shire (now City) of Swan. **Barbara Dundas**

See also: Convicts; Foundation and early settlement; Midland; Railways
Further reading: M. J. Bourke, *On the Swan: a history of Swan District, Western Australia* (1987)

Gulf Wars The first Gulf War, between a UN-mandated international force and Iraq, began on 17 January and concluded on 27 February 1991. Australia was part of this coalition, but its involvement was minimal. It sent small, specialist contingents from the Army and Air Force and several ships to police sanctions against Iraq before and after the ground war, and more to protect US ships during the war itself. The only Western Australian military personnel sent were from the Navy.

The Australian involvement in the second Gulf War (sometimes called the Iraq War) was much larger. This war, led by the USA and comprising a 'coalition of the willing', began with the assault on Iraq on 19 March 2003. Some three thousand military personnel from all branches of the Australian armed services were sent, and the SAS Regiment, stationed at Swanbourne in Perth, had a significant presence. President Bush declared the war over on 1 May 2003, but Iraq descended into insurgency and civil war. In 2005, Australian troops were sent to southern Iraq to protect Japanese engineers, and by March 2006 there were a total of 1,320 Australian Defence Force (ADF) personnel there, although their role had since changed.

There were no Australian combat casualties in either declared war. Western Australian troops were 'welcomed home' after the second war in a large street parade.

Both wars divided Western Australians. The Australian Labor Party involved Australia in the first war and the action had mostly bi-partisan support in politics because the invasion of Iraq was authorised by the United Nations. Nevertheless, there were several demonstrations in Perth against the war.

The second war was much more unpopular. Supporters of the war regarded Iraq as a danger to Australia because they believed it had weapons of mass destruction, supported terrorism and that Australia had a duty to support the USA. Opponents believed that the war was illegal, being conducted without a UN mandate, while others argued that Australia was heading into a new Vietnam because of its support of an interventionist US government. Most Western Australians opposed sending troops without explicit United Nations sanction and a sizeable minority opposed involvement under any circumstances, although when the war was formally over a small majority supported Australia's involvement. There were many demonstrations against the war and these were among the largest Perth has seen. In 2007, with the insurgency and civil war dragging on, the search for weapons of mass destruction long abandoned, no links established between Iraq and international terrorism, and a number of Australian casualties, more people have turned against Australia's involvement. **Charlie Fox**

See also: Air Force; Army; Navy
Further reading: M. Goot and R. Tiffen, *Australia's Gulf War* (1992)

Gymnastics Modern gymnastics evolved in the nineteenth century as a fusion of German and Scandinavian disciplines. It was introduced into Australia late in the century by European and British instructors. Heavily influenced by concerns for racial and national fitness, initially the sport was undertaken principally by males, but became acceptable for Australian girls and women towards the end of the nineteenth century, when instructors, emphasising its benefits in offsetting a

sedentary lifestyle and developing feminine characteristics, suggested gymnastics could help produce healthy wives and mothers for the nation.

In the early decades of the twentieth century, gymnastics was taught at private and, later, government schools, and through the YMCA. Sergeant Major W. J. H. (Bill) Emmott taught gymnastics and put on displays for the public at a number of private boys' schools, such as Scotch College and Aquinas. From the 1920s eurhythmics was introduced in Perth girls' schools. Its emphasis on grace and beauty through regimented moves to classical music has influenced the later development of the gymnastic discipline of rhythmic gymnastics. Since these early developments, all aspects of gymnastics continue to be an important component of many schools' physical education programs.

Western Australia, along with other states, formed its own gymnastics association in the 1930s; however, it was not until 1955 that the Western Australian Amateur Gymnastics (now Gymnastics Western Australia Incorporated) formally linked up with the then Australian Gymnastic Union (now Gymnastics Australia). One of the early coaches credited with formalising the link with the Australian Gymnastic Union was the YMCA's Dave Robertson. Women's gymnastics in WA began its development as a competitive sport in the late 1950s, with Nelleck Jol, a Dutch migrant to Perth, playing a significant role. Gymnastics Western Australia continues to take responsibility for the development of general gymnastics and, since the 1970s, for a further five new gymnastic disciplines: rhythmic gymnastics (1977), sport aerobics (1998), trampoline sports (2001), sport acrobatics (2003) and cheerleading (2004).

Western Australia has been the dominant force in women's gymnastics at national and international level, and on thirteen occasions between 1960 and 2004, female Western Australian gymnasts have represented Australia at the Olympics. Since the induction of women's gymnastics to the WA Institute of Sport in 1984, and through the vision of Liz Chetkovich, women's gymnastics has dramatically improved its standard of international performance. The Australian Women's Gymnastics team, captained by Western Australia's Allana Slater, Australia's most decorated gymnast, won a bronze medal at the 2003 World Championships. Slater has also won three gold, four silver and one bronze medal at the Commonwealth Games, the most of any Western Australian athlete.

In men's gymnastics, Western Australia's only Olympic representative has been Lindsay Nylund, who was also the first Australian gymnast to win a medal at an international competition with a silver at the 1978 Commonwealth games in Edmonton, Canada.

Gymnastics has always relied heavily on its volunteer base and has seen outstanding service by several individuals, including Dave Robertson (1952–70), Nelleck Jol (1953–91), Akos Kovacs (1955–87), Noel Hunt (1957–87), Maureen Strauss (1964–87), Liz Chetkovich (from 1971), Julie Biltoft (from 1976) and Steve Chetkovich (from 1986).

Gymnastics has one of the most comprehensive coach and judge education systems of any sport, and participation expands well beyond that of competition. At present, gymnastics in WA has over 7,500 members, and a strong club network comprising over fifty metropolitan and regional-based affiliated clubs. **Gratton Wilson and Anna Kesson**

See also: Western Australian Institute of Sport; Young Men's Christian Association (YMCA)

Further reading: G. S. Kolt and R. J. Kirkby, 'A Brief History of Gymnastics in Australia', *Australian Society of Sports History Bulletin*, 26 (June 1997); M. K. Snell, *Half the race: a history of Australian women in sport* (1991); W. Vamplew, B. Stoddart and I. Jobling (eds), *Sport in Australia: a social history* (1994)

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Hall of Champions The Hall of Champions was originally the idea of the now-defunct WA Sports Writers' Association. In 1985 the Western Australian government asked the Western Australian Institute of Sport (WAIS) to develop the project. A steering committee comprising members of the Association and the WAIS Board of Directors, under the chairmanship of Wally Foreman, confirmed a concept and a selection process for the Hall. Fourteen foundation members were inducted into the Hall at the WAIS Annual Dinner that year. These sportspeople were considered to have the best sporting records of all Western Australians to that time. Bronze busts of each of the foundation members were cast and stand in the entrance foyer of Challenge Stadium, as well as the Hall of Champions gallery, where photographs and biographies of each inductee are displayed. A Hall of Champions booklet with a photograph and a longer biography of each inductee is produced annually.

Athletes selected for the Hall of Champions are inducted each year at the WAIS Annual Dinner. Inductees must have exhibited outstanding performance at the highest level of open competition; must be a product of the WA sporting system or have developed the bulk of their sporting record while resident in WA; and must have retired from the highest level of competition in their sport for a minimum of five years. The selection committee now comprises members of the WAIS Board, senior members of the WA sports media and selected members of the Hall. Future plans for the attractive venue include the development of an audiovisual display. **Wally Foreman**

See also: Western Australian Institute of Sport

Halls Creek, situated to the north of the Great Sandy Desert, provides services to more than 1,300 residents, of whom approximately 80 per cent are Indigenous, and to pastoralists, prospectors, mining companies, tourists, and outlying Aboriginal communities. The town dates from the 1950s, having been built near the regional airstrip, while its predecessor, Old Halls Creek, situated approximately fifteen kilometres to the east, dates from 1886, when the colony's first substantial gold rush brought it into existence. The old town is a tourist attraction in which the main features are the cemetery and the ruin of the mud-brick post office. The other mud-brick buildings there were of more recent construction, but disintegrated following their abandonment and the loss of their roofing iron. In the new town, homage is paid to Russian Jack, who helped a mate during the gold rush, and to the late Jack Jugarie, an Aboriginal elder. Mr Jugarie featured in the documentary 'The Human Race' at the age of seventy-one, winning an inspiring 600-kilometre competitive walk from Wolfe Creek Crater to Wyndham. **Cathie Clement**

See also: Frontier violence, Kimberley; Gold; Kimberley; Russians
Further reading: C. Clement, *Old Halls Creek: a town remembered* (2000); H. McDonald, *Blood, bones and spirit: Aboriginal Christianity in an East Kimberley town* (2001)

Harvey The Shire of Harvey lies approximately 120 kilometres to the south of Perth. It stretches westward to the coast and eastward to the Darling Range. European settlement in the area commenced when the Western Australian Company, a London-based investment group, purchased 176,000 acres and established the farming settlement of Australind in 1841. The scheme was not a success. By 1844 only 148 of the 476 colonists who had emigrated to Australind remained, including Marshall Waller Clifton, the Company's Chief Commissioner. The colonists moved away from the small settlement, establishing new farms to the north and east.

By the 1860s the settlers had come to understand the need to shift stock between the coastal sands and the loamy soils of the foothills, creating a land-use pattern that persisted until superphosphate was introduced in the early twentieth century. Homesteads were constructed from local materials to designs that were initially English in origin and then adapted to local conditions. By the end of the 1870s, houses with wide verandahs had become commonplace. Timber cutters arrived in the late 1870s and Yarloop Timber Mill was established in 1895. The year before, the district was gazetted as the Brunswick Road District. Extensive drainage and irrigation channels excavated during the first decade of the twentieth century led to the development of dairy farms and orchards. The district was renamed the Harvey Road Board District in 1909 and by 1920 a milk depot had been established. In 1931 work commenced on the Harvey River Diversion, using sustenance workers to move the huge quantities of earth. The Diversion was completed at the end of 1932. The town of Harvey was gazetted in 1938. Between 1940 and 1942, Italian civilians were interned in the No. 11 Internment Camp—approximately one thousand Italians, from all over Western Australia, were detained there. Today the area has a diverse range of industries such as bauxite mining, viticulture, dairying and citrus orchards. **Fiona Bush**

See also: Dairying; Depression; Foundation and early settlement; Horticulture; Internment; Irrigation; Timber industry; Waroona
Further reading: P. Joske, *Dearest Isabella: the life and letters of Isabella Ferguson 1819–1910* (1989); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986); A. C. Staples, *They made their destiny: history of settlement of the Shire of Harvey, 1829–1929* (1979)

Health Consumers' Council The Health Consumers' Council is an independent community-based organisation established in 1994 to represent consumers in health policy, planning, research and service delivery.

In 1983 Western Australia's Labor government established the Health Advisory Network, designed to bring together health providers (professionals) and consumers to provide advice to government. Located inside the Health Department of WA, the Health Advisory Network had limited independence but demonstrated an important first step in consumer participation in health decision-making. By 1990 a Consumer Advisory Network had developed that supported consumer participation, advocacy and consultation. The idea of such a health consumer organisation was kept alive by a number of key individuals and chronic-illness groups including the Cystic Fibrosis Association, Post Polio Network and the Council on the Ageing. In 1993 the incoming Coalition government agreed to fund a health consumer organisation and the Health Consumers' Council was established the following year.

Ten years later the Council maintains a statewide service, five staff and seven hundred members. Its members are individuals, non-government not-for-profit health organisations and associations, who elect board members

and act as the 'voice' of the patient/consumer and community groups. The Council provides an advocacy service to patients on an individual basis; feeds back concerns to the Department of Health, hospital and health services; recruits, trains and supports a range of consumers/patients on local, state and national committees; and reviews state and national health policy and legislation from a patient perspective. **Michele Kosky**

See also: Public health

Health insurance Many early Western Australian settlers had been members of friendly societies in Britain, and it was not long before similar organisations were flourishing in the colony. By 1902 there were 12,000 friendly society members in Western Australia. At a time when there were few hospitals, these societies organised medical services, supplied medicine, paid funeral benefits and often provided ongoing financial assistance to the bereaved family. Two of the largest were the Independent Order of Oddfellows and the Sons of Australia Benefit Society.

By the early twentieth century, some friendly societies began to have success in gaining concession rates for their members in hospital. Building on this idea, hospitals began to establish their own funds in an effort to provide income. In 1941 the existing schemes at the Perth, Fremantle and the Children's hospitals combined to form the Metropolitan Hospitals Benefit Fund of WA, registered under the provisions of the *Associations Incorporation Act*. The Fund grew rapidly: in 1945 'Metropolitan' was removed from the name to highlight the Fund's state-wide coverage, and by 1959 there were over 164,000 contributors, representing 50 per cent of the state's population. In 1954 the WA Government Railways Employees Hospital Fund was established, to become the Health Insurance Fund and broaden its scope to include all Western Australians in 1976.

HBF and other smaller funds have had to operate within the changing field of Australian health policy. Up to the 1970s, voluntary insurance was subsidised by Commonwealth benefits, and covered medical visits, inpatient and outpatient hospital services, pharmaceuticals and diagnostic services. A slow expansion of Commonwealth involvement in the healthcare system culminated in the introduction, in 1975, by the Whitlam Labor government, of Medibank, a universal health insurance scheme. A change of government saw modifications to Medibank that strengthened the role of private health insurers and also allowed Medibank to provide private insurance services. In 1984 a new government introduced a new universal scheme, Medicare, which allowed all Australians access to free treatment in public hospitals. As a result, the proportion of the population covered by private health insurance declined steadily. Successive federal governments introduced a number of policy changes, including a tax surcharge (1997) and a 30 per cent premium rebate (1999) in order to stem this decline.

In the face of increasing competition in an uncertain environment, an ageing population and rising health costs, HBF and other funds have diversified. HBF now offers financial planning services, home and contents insurance, as well as car, pleasure craft and travel insurance. It has around 900,000 members, a market share of 60 per cent, compared with the second-largest hospital insurance fund, Medibank Private, covering 18 per cent of the population. **Sue Graham-Taylor**

See also: Public health
Further reading: S. Graham-Taylor, *Are you with HBF? The private world behind the public face* (1994)

Heritage debates focus on things we value enough to pass from one generation to another, and arise from tensions between cultural and economic values. Legislation for

the protection of heritage represents formal expression of underlying cultural values.

Recognition that Western Australia's natural heritage had potential scientific interest or economic value occurred by 1699, with de Vlamingh's removal of plant specimens to Europe and several black swans to Batavia. Plant specimens from 1801 are the earliest surviving, and many type specimens of Western Australian flora are held internationally. Concern for and interest in the natural environment spawned a range of organisations, including the Mueller Botanical Society of Western Australia (1897), the Royal Society of Western Australia (1914) and the Western Australian Naturalists Club (1924). The number of species protected by the *Native Flora Protection Act* of 1912 was expanded in 1935. Formal documentation of the state's floral heritage began locally in 1928 with the State Herbarium, formed from the merger of institutions in the Museum, Agriculture and Forestry departments. This databank provides a foundation from which to document ecological changes and economic and cultural values.

Nineteenth-century legislation protecting imported game and native fauna for hunting, creating reserves for timber and recreation, and protecting wildflowers, shows early concerns for natural heritage. The *Kangaroo Ordinance* of 1853 was the first to ensure that the economic and sporting needs of settlers would be met, and Aboriginal people's food sources preserved. Twentieth-century Game Acts protected native and introduced fauna for hunting and shows the emergence of a conservation culture, culminating in the *Native Fauna Protection Act 1950*. The *Land Act 1898* and *Permanent Reserves Act 1899* provided for setting aside reserves for the protection of flora and fauna and natural features, including South-West caves, and created three classes of reserves to give degrees of security against alienation.

The need to preserve historical documents was raised federally in 1902, and this led to the eventual formation of the State Archives Committee in 1923. The formation of the Historical Society in 1926, prior to the State Centenary in 1929, marked an emerging awareness of cultural heritage through official records, private manuscripts and certain historical sites. The Society successfully lobbied for the appointment of a State Archivist in 1945, and government archives received legal protection in 1974. A separate agency for government record-keeping and archives management was formed in 2000. Western Australian publications were collected under the *Copyright Act 1898* by the State Library, though this Act was repealed in 1994, and the Historical Society and the State Library both collect manuscripts. Pressures to suppress specific pasts, including convict and Indigenous histories, have eased over time, with convict heritage now a source of pride, while past deliberate destruction of records now inhibits the understanding of certain Indigenous histories.

Rising awareness of the importance of preserving historical documents ran parallel with a developing interest in the built environment. The *Town Planning and Development Act 1928* was the first legislative attempt to create order in the built environment. Interest in preserving historic buildings gained momentum with the partial destruction of the Fremantle Round House in 1928, and in 1930 the Town Planning Commission recommended a board to control buildings, sites and monuments. Draft bills in 1930 and 1932 were failed attempts to bring the preservation of buildings and documents under legislative control.

Postwar passions about what mattered to Western Australians were aroused when the imperative to develop met with the impulse to preserve, as immigration and large-scale land clearing increased. The historical fabric of the city appeared threatened with modern approaches to town planning outlined in Stephenson's 1955 plan, and this in part stimulated the formation of the National Trust

in WA in 1959 and the passing of the *National Trust of Australia (WA) Act 1964*. This community organisation campaigned immediately to preserve the Pensioner Barracks and has lobbied for the preservation of wildflowers, specific buildings and historic towns, and for state heritage legislation. The *Heritage of Western Australia Act 1990* created the Heritage Council of WA to manage the protection of built heritage sites of state significance. WA was the last mainland state to achieve a heritage Act.

Piecemeal encroachment into the Swan River and Kings Park focused public debate in the 1960s. An ecological approach to bushland conservation arose from opposition to the 1962 Empire Games 'Pool in the Park', and the Narrows Bridge interchange is a reminder of a failed campaign to prevent reclamation of the Swan River. Increased public concern for preservation of the natural environment led to the 1967 formation of the Conservation Council of Western Australia, which successfully lobbied for the establishment of the Environmental Protection Authority in 1972.

The fortunes of the State Museum, which houses moveable heritage, have been closely tied to economic cycles, with its growth reflecting the 1890s mineral explorations and the 1960s nickel boom. The first formal museum in the 1860s was geological, and state collections expanded from this base to include scientific and ethnographic objects and an Art Gallery from the 1890s. The discovery of two shipwrecks in 1963 led to a series of legislative changes culminating in the *Maritime Archaeology Act 1973* and a new department within the Museum. This Act, superseded by Commonwealth legislation in 1976, introduced the conceptual shift from a wreck to an historic ship and thus an archaeological site, and offered protection for declared maritime archaeological sites.

Increased mining exploration and agriculture resulted in difficulties in ensuring the safety of Aboriginal sites, particularly in the north of the state. Professional pressure resulted in the *Aboriginal Heritage Act 1972*, which provided the authority to administer protection for sites and moveable cultural objects, initially within the Western Australian Museum. Its authority was undermined in the 1979 Noonkanbah dispute.

Debates about whose heritage is valued and how it should be represented mark the maturing of Western Australian society. The naming of the Acts has resulted in the idea of heritage being synonymous with buildings. Fracturing the management of different forms of heritage has resulted in a failure to look at common heritage values contained within all forms. Consequently, contemporary disputes about built heritage focus on architectural importance to the detriment of social and cultural values, sites which share Aboriginal and European histories tend to fall through the legislative net, and natural environment sites are often assessed independently of their value to Aboriginal people or as cultural landscapes. **Joanna Sassoon**

See also: Art Gallery of WA; Battye Library; Built heritage; Collections, plant; Environment; Historical records; National parks; National Trust of Australia (WA); Shipwrecks; State Records Office; Vlamingh's journey; Western Australian Museum
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); J. Sassoon, 'The courage of their convictions: creating cultural landscapes in 1930's Western Australia', *International journal of heritage studies*, 12, 3 (2006)

High School Country Week Country Week, the annual sporting extravaganza for country senior high school students, began in 1932 when teams from Albany and Bunbury high schools came to Perth to play Australian Rules football against Kent Street High School and Perth Modern. Over the years the number of participating country schools

grew as it became a purely rural event, while the range of sports also increased to include girls' netball and hockey, then, later, basketball and volleyball. Country Week also expanded to include non-government schools. Dance, speech and debating competitions now make Country Week an educational as well as a sporting experience. In 2004, thirty-five schools and 230 separate teams competed in the competition's seventy-second year.

Run by School Sport WA, the sports wing of the Western Australian Education Department, Country Week has always provided the best level of sporting competition for country high school sporting teams. Like sport everywhere, it is also wrapped up in moral codes, with participation, teamwork, health, self-confidence and discipline all part of the rationale. But Country Week has always had an informal side, as country kids, away from the gaze of parents and teachers, enjoy both the journeys to and from home and indulge in the variety of licit and illicit cultural pursuits Perth has to offer. It is likely that students remember the mischief and high jinks of Country Week as much as the competition.
Charlie Fox

See also: Education, government secondary

Hills water supply In 1891, after years of procrastination and resistance, Perth got a municipal water supply from Victoria Dam, preceding the landmark service to the Eastern Goldfields by a decade. In due course the latter provided service to country towns and farmlands. These works were manifestly necessary to provide a safe water supply and reduce the spread of infectious diseases, but many thought them to be beyond the means of the community.

From the outset, the privately owned Perth undertaking was beset by capacity problems leading to a virtual takeover by the government in November 1904 by way of a Board chaired by the Engineer-in-Chief. The reorganisation was rationalised from January 1910 by the establishment of a Metropolitan Water Supply Sewerage and Drainage Department. Despite the soaring population, improvements to the water supply were limited to a few artesian wells, though popular opinion preferred a major dam or, as a minimum, supplementation from Mundaring Weir. Material shortages and cost blowouts following the First World War generated serious hurdles, causing the government to falter and then to consult. The department's own chief engineer, Major F. W. Lawson, recently returned from service as the water supply officer of the Australian Corps in France, was uncomfortable about the sustainability of the artesian source. The construction of the small storage on Bickley Brook in 1920 was timely, yet no more than a minor improvement. The centrepiece of his strategic concept was a storage reservoir on Churchman Brook with command by gravity of a future Canning Dam, to be located downstream of the site preferred by most planners. It was conceived that these reservoirs would share, in time, a common transfer main, which would be utilised to bring timely though temporary relief by tapping a pumped diversion from the Canning River upstream of the intruding saltwater.

Fearing that this stopgap solution might mutate and be permanent, public reaction was hostile. The government responded by appointing E. G. Richie, an able water engineer from Victoria, to give an opinion. He recommended alternative storage on a Canning River tributary, a response which further obfuscated decision-making and drew Lawson's ire. A compromise rejected both the pumping option and the lower site on the Canning in favour of a start to the reservoirs on Churchman Brook and the provision of upland pipe heads. It was not until Canning Dam was finished in 1941 under the direction of R. J. Dumas that Perth had a water service befitting a capital city.

A start had been made in 1912 under Lawson on a facility to sewer the central and near city areas, with effluent treatment at Burswood Island. This service was enlarged to the dormitory suburbs of the 1930s, but until the National Sewerage Program of the 1970s it was destined to play second fiddle to the water supply sector.

The pattern of water use has responded to population growth and profuse use by consumers over the fifty-year period from the 1920s, leading to a doubling of water consumption every fourteen years. This growth has been met largely by regulation of the Darling Range rivers of the Canning, the Serpentine and the North and South Dandalup. Thereafter, ground water has graduated as the major supplier, acting as a bulwark to secure the system from the ravages of climate change, which has reduced catchment run-off by as much as two-thirds. Technological development in desalination and water transfers from remote bore fields may yet assist the water industry in confronting costly supply issues. **H. E. Hunt**

See also: Dams and reservoirs; Infrastructure and public works; Water management
Further reading: H. E. Hunt, *Perth's early water supplies* (1984); S-J. Hunt, *Water: the abiding challenge* (1980)

Hinduism Hindus first came to Western Australia from India as servants or indentured labour from the 1830s. Some also came as camel drivers and travelling merchants. In 1848 the Bunbury population was described by visitor Horace Meyer as comprising twenty settlers, ten soldiers and two hundred Bengali 'coolies'. They helped in raising horses for shipping to the Indian Army. In 1911 there were only one thousand Hindus in Australia. Under relaxed migration restrictions, a substantial number of Hindus came to WA in the late 1960s to 1980s as skilled migrants in fields such as medicine, geology and

architecture. The majority of Hindus in WA have migrated from India, Sri Lanka, Malaysia, Singapore, East Africa and Fiji.

There was no formal Hindu organisation or temple until the late twentieth century. In 1985 Western Australia's Hindus organised formally to better cater to their religious needs. The Hindu Temple Association of Western Australia, which worked closely with the Indian Society of WA in the 1980s, was formed in 1986. Five acres of land were purchased in Canning Vale on 10 August that year for construction of a Hindu temple. After a range of ceremonies conducted by many holy Swamis for consecration of the land, the construction of the old temple hall began in March 1989 and was completed in 1990. The present icons of God, namely Ganesha, Shiva, Devi, Vishnu, Kartikeya and Hanuman, were installed in the temple between 1990 and 1993. Many of these icons were gifted to the Hindu temple by visiting saints.

On 28 July 1999 the name of the Hindu Temple Association of WA (Inc.) was changed to Hindu Association of WA (Inc.). Construction of a new Perth Hindu temple began with a foundation ceremony on 10 April 1998 attended by about one thousand people. Hundreds of local volunteers worked for a number of years alongside artisans brought from India in constructing the new temple and creating intricate sculptural work on shrine domes, pillars and temple walls. The

Interior of the new Hindu Temple, 2005. Courtesy Atul Garg.

104-day consecration of the new Canning Vale temple was completed on 26 October 2005. Still under construction, it now caters to the religious and cultural needs of all Hindus settled in WA (8,156 in 2006), as well as Hindu students studying in WA educational institutions, and its unique architecture has made it a tourist attraction. **Atul Garg**

See also: Asian immigrants, nineteenth century; Asian immigrants, twentieth century; Indian Ocean region; Multiculturalism
Further reading: P. Bilimoria, *Hinduism in Australia: mandala for the gods* (1989); A. Kandiah, *Hindu Temples in Australia* (2002)

Historical imaginings During the second century AD, the Graeco-Egyptian astronomer Ptolemy not only named '*Terra Australis Incognito*', but also reasoned that a large land mass must exist south of the equator in order to balance the weight of known lands in the northern hemisphere. Such reasoning continued well into the middle ages and was enhanced by Marco Polo's report that Arab traders had told him of the existence of large islands to the south of Cochin China. Following Vasco da Gama's discovery of the sea route to the Spice Islands via the Cape of Good Hope in 1495, it has been argued that Portuguese mariners explored and mapped both the east and north-west coasts of Australia. Although the provenance of the Dauphin map of Jave la Grande (1536) has been contested, it clearly depicts parts of Western Australia's coastline from Victoria River to King Sound (its exploration attributed to Gomes de Sequeira during the 1520s), the coastline on that map south of King Sound is represented by a dotted line running directly south towards Antarctica.

By 1628 Dutch traders, who had replaced the Portuguese as main traders to the Spice Islands, had also replaced the dotted line with the first map of coastal WA. VOC (Dutch East India Company) captains sailed eastwards from the Cape of Good Hope with the intention of turning north southwards of Java, but inability to calculate accurately the distance travelled led Dirk Hartog to sail too far east, sighting the western coast of the Australian continent, and landing on the island that now bears his name in 1616. The logs of other Dutch mariners who sighted other parts of the coast, for similar reasons, enabled the VOC's chief cartographer (Hessel Gerritz) to draw a map in 1628 delineating the shape and location of Western Australia's coastline.

For almost two centuries thereafter, European mariners speculated about what lay beyond the coastline and who lived there. Many mariners did not go ashore, and those who did ventured only short distances. Following Willem de Vlamingh's important voyage in 1696 from near Swan River to North West Cape, Nicolaas Witsen, a manager of the VOC, speculated, on the basis of Vlamingh's report, that the seemingly basic native houses seen on the coast were probably only 'beach houses' used by Aboriginal people when catching fish and that their permanent dwellings were further inland. Then, in 1801, François Péron, a naturalist with the Baudin expedition, discovered 'ceremonial grounds' at Geographe Bay and conjectured that the river and adjoining marshes were a source of food for what might be a new race of Egyptians, who, like the ancient inhabitants of the Nile, had consecrated by their gratitude the stream which supplied their wants.

Although James Stirling had travelled upriver to near present-day Ellenbrook during his 1827 visit to Swan River, speculation already abounded concerning topography beyond the Darling Ranges. Joseph Bailly, a mineralogist with the Baudin expedition, had speculated that the river's source might be a chain of mountains running from east to west 'directed towards the centre of New Holland' and constituting the 'skeleton of the country', an expectation also held by a passenger in the *Parmelia* (1829), who

thought that another large river would be discovered, fed by a range of snow-capped mountains. This kind of expectation had been stimulated by an article in the *Quarterly Review* of 1829, attributed to the influential public servant James Barrow, which not only foreshadowed 2,430,000 hectares of land 'fit for the plough', but also fertile plains beyond the Darling Range 'intersected by streams of water flowing from the mountains to the eastward and northward'. And when in London during 1833, trying to obtain stronger government support for the Swan River Colony, Stirling argued that a man-o-war ship should be stationed at Fremantle to determine, among other things, 'whether a second Mississippi does or does not exist on the N. West Coast'.

There was also great speculation as to whether the eastern side of the continent was separated from the western side by a channel, a possibility put forward by many geographers following Tasman's voyage of circumnavigation in 1644. The doubt was resolved by Flinders during his careful exploration of the south coast in 1801. In 1718 Joan Pieter Purry also speculated about what might lie beyond the south coast. Basing his book on the journal of Frans Thyssen's voyage in 1626, Purry not only imagined that the south coast would be a favourable location for cultivation of crops, but that gold and silver might be discovered inland. Little did he realise that, at the end of the nineteenth century, one of the world's richest goldfields would be discovered inland at Kalgoorlie. **Reginald Appleyard**

See also: British maritime exploration; Dutch maritime exploration; French maritime exploration
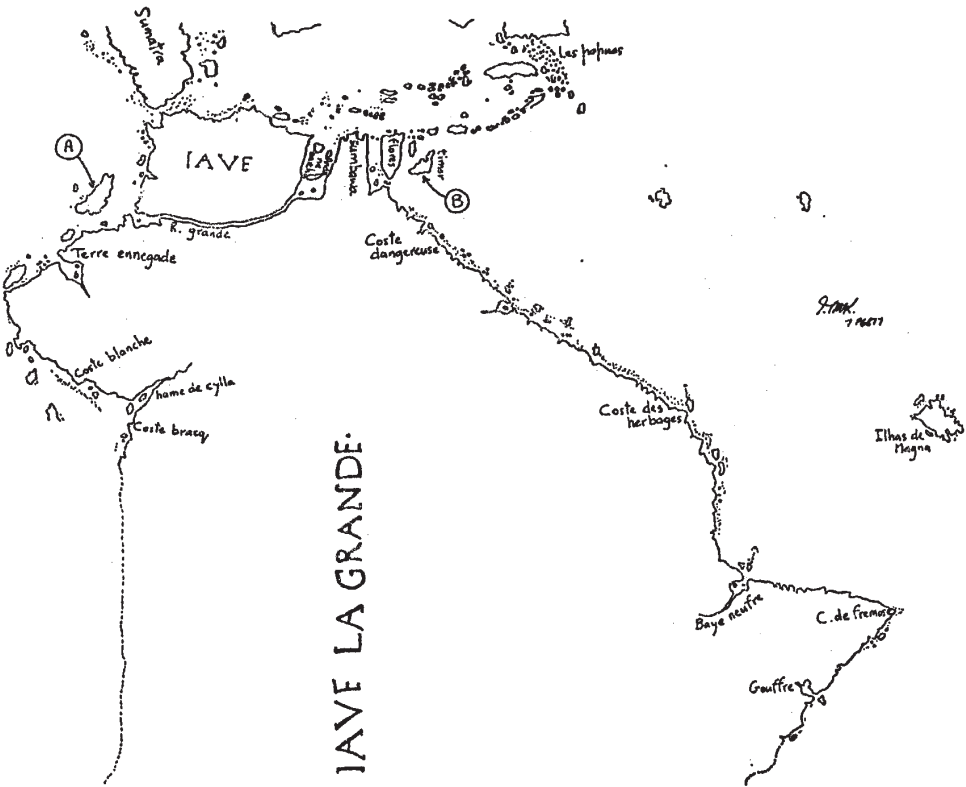
Cartographic detail from the 'Dauphin Map' (1536). Courtesy of Ian McKiggan

Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); I. McKiggan, 'The Dauphin Map—a Reply', *Journal of Australian Studies*, 3 (1978); B. C. Rennie, 'The Dauphin Map', *Journal of Australian Studies*, 3 (1978)

Historical records Commencing in 1904, many of the state's early official historical records were transferred to the custody of Dr J. S. Battye, the Public Librarian, through the interest and goodwill of individuals working in government agencies. The formation of the Western Australian Historical Society in 1926 (later Royal), and the centenary celebrations of 1929, stimulated interest among pioneer families and institutions with a colonial history in donating their papers to either the Society or the Library. The Society's alliance with Dr Battye resulted in the housing of both collections under one roof during the 1930s and 1940s. The Historical Society also took a leading role in persuading the state government to establish an archives department, and consequently Mollie Lukis was appointed as the first official archivist in March 1945.

The creation of an archives branch within the Public Library enabled the records of government departments to be properly surveyed and systematically transferred to the Archives Branch. Work also commenced on the description of the government and private records to facilitate researcher access to the archives. The first inventory of records held by the Historical Society and the Public Library was produced in 1953.

In 1956 the Archives Branch became part of the J. S. Battye Library of West Australian History, under the control of the Library Board of Western Australia. Battye Library is the repository for the state's most significant collection of private archives, i.e. records that originate from non-government sources.

The archives of colonial, state and local government agencies in WA are held by the State Records Office. The Director of State Records is the official custodian of records in the state archives collection in accordance with the *State Records Act 2000*.

In 1957 a repository was established at Karrakatta in order to house the records of Commonwealth government agencies located in this state. The archives were moved in 1976 to their current premises, a purpose-built National Archives repository in East Victoria Park.

The Battye Library cooperates with the archives offices of the Anglican Church (including records of the synod, and individual dioceses and parishes), the Uniting Church and the Churches of Christ. Battye Library holds some Jewish community records, including early Perth Hebrew School registers. Most Roman Catholic records are kept in the dioceses or with the Church office in Perth. Religious orders that maintain significant archives include the Benedictine monastery at New Norcia (founded in 1846) and the Christian Brothers. The latter holds records of former childcare institutions and PHIND (an electronic index to former UK child migrants sent to Catholic institutions in Australia).

The archives and records branch of The University of Western Australia has been operating since 1979, and holds records that document the work of that institution since 1913. Edith Cowan, Curtin and Murdoch universities also keep their own archives. Curtin also hosts the nation's first electronic research archive, established at the John Curtin Prime Ministerial Library. Historical records of government schools are either held by the State Records Office or remain with the school. The major independent schools maintain their own archives, although early records of Hale School and Scotch College are held in the Battye Library.

The Battye Library is the major repository in this state for business and union archives. The records of the former government-owned

Rural & Industries Bank (now Bankwest) are held by the State Records Office.

The State Records Office and the Family Information Records Bureau hold records relating to Aboriginal people created by the former Native Welfare Department up to the early 1970s.

Some of the state's historical records are held outside the state. Examples include: original governor's dispatches held by the UK National Archives; records of the Westralia Bank 1841 to 1927 held by Westpac archives in Sydney; Waterside Workers Union records at the Noel Butlin Archive in Canberra, and early defence and immigration records held interstate by the National Archives.

The *Directory of Archives in Australia* (accessible via www.archivists.org.au) provides the most comprehensive record of collecting bodies. The Directory was first compiled in 1997 and identifies sixty-nine collecting institutions in WA. Local historical societies and independent schools provide about 50 per cent of these entries. **Tom Reynolds**

See also: Battye Library; Historiography, Western Australia; Royal Western Australian Historical Society; State Records Office
Further reading: F. K. Crowley, *The records of Western Australia* (1953); L. Hays, *Worth telling, worth keeping: a guide to the collections of the J. S. Battye Library of West Australian History* (2002); D. Midalia, *Collections in Perth: a guide to Commonwealth Government records* (2000); Records Taskforce of Western Australia, *Looking west: a guide to Aboriginal records in Western Australia* [electronic resource] (2004); H. Campbell, *Katitjin: a guide to indigenous records in the Battye Library* [electronic resource] (2003). For details of the major government collecting agencies see: State Library of Western Australia, www.liswa.wa.gov.au; State Records Office of Western Australia, www.sro.wa.gov.au; and National Archives of Australia, www.naa.gov.au.

Historiography, Western Australia Our understanding of Western Australia's past has been shaped in part by its historians and by societies that promote history.

When WA celebrated its jubilee in 1879, Edmund Stirling, editor of the *Inquirer*, expressed disappointment that there had been no attempt 'to compile a narrative from authentic sources of our progress'. He later attempted to rectify this, but completed only one volume of his *A Brief History of Western Australia: from its earliest settlement* (1894). Only fourteen pages long, it dealt with the years 1827 to 1842.

It was not until the gold-rush years that a major history was published. American Warren Bert Kimberly arrived in Perth in December 1895. He had written encyclopedic histories of Ballarat (1894) and Bendigo (1895), and with his assistant J. J. Pascoe, a young Melbourne journalist, wrote the 226-page *History of Western Australia: A Narrative of her Leading Men* (1897) in only eighteen months. It included 163 short biographies and two appendices on the mining industry, written by S. Goczel and F. C. B. Vosper. The volume was partly subsidised by the Forrest government, who guaranteed purchase of 100 copies.

Other encyclopedic histories followed: P. W. H. Thiel's *Twentieth Century Impressions of Western Australia* (1901) was published to commemorate the visit to WA of the Duke and Duchess of Cornwall and York (the future George V and his queen May) visiting Australia for the celebration of Federation. Although most of its 800 pages were devoted to the state's commercial progress, it also provided a summary of WA history.

More comprehensive histories emanated from the pen of Western Australia's first State Librarian, J. S. Battye, who published a *Cyclopedia of Western Australia* (1912), and later the 480-page *Western Australia: a History from its Discovery to the Inauguration of the Commonwealth* (1924), gaining a D. Litt. from the University of Melbourne for the latter. He

was heavily reliant on Kimberly's work, some of which he paraphrased—as Geoffrey Bolton wrote, 'Battye follows Kimberly's lead too faithfully for coincidence'—though his conclusions were generally more conservative.

As the state's centenary approached, there was increasing interest in WA history. The forerunner of the State Archives was established in 1923 and the Western Australian Historical Society (later Royal) was founded in 1926. To commemorate the centenary, former newspaper man, ex-premier and ex-agent general in London, Sir Hal Colebatch, was commissioned by the Collier government to prepare 'an outline of the progress of Western Australia'. The result was a triumphal 476-page edited collection *A Story of a hundred years: Western Australia, 1829–1929* (1929).

The centenary also increased interest in the state's built heritage. But although moves towards the preservation of the historic environment were evident from the 1930s, the National Trust of Australia (WA) was not founded until 1959. The *Heritage of Western Australia Act*, which established the Heritage Council of WA, was not passed until 1990.

The next major work to span the history of the whole state was Frank Crowley's 404-page history of WA, *Australia's Western Third* (1960). It reflected the surge in historical scholarship following Crowley's appointment to The University of Western Australia. Within a few years he had completed a bibliographic tool later published as *Historical Records of Western Australia* (1953), had begun to build up a school of postgraduate students and had begun work on *A Short History of Western Australia* (1959) for use in secondary schools. Crowley and Brian de Garis published an expanded version in 1969.

Renewed interest in WA history in the lead up to the state's sesquicentenary in 1979 was marked by the foundation of the Oral History Association of Australia (WA) (1978) and the WA Genealogical Society (1979). With the celebrations came the publication of a major collaborative effort, the fourteen-volume

sesquicentenary series on Western Australia's history, written by scholars, published by UWA Press, and sponsored by the state government. It was a ground-breaking endeavour, covering the whole gamut of the state's history. One volume stands out for its innovative and critical voice: *Westralian Voices*, compiled by Marian Aveling, was made up of original documents representing a myriad of voices from the past—Aboriginal, convict, men and women in poverty. Two years later came C. T. Stannage's edited collection *A New History of Western Australia* (1981), which was informed by the new social history and presented alternative views of the state's history.

The sesquicentenary also generated a very large number of 'history' publications, but many were written by people with little historical training, the information they contained was often unreferenced, there was rarely any sense of context and, in some, common errors and myths were perpetuated. Hence, in 1985 the Centre for Western Australian History was established at The University of Western Australia to encourage the research and writing of WA history to professional standards. Under part-time directors, notably Brian de Garis (1985–86), Carolyn Polizzotto (1987–88), Jenny Gregory (1989–97, 2000–06), Jan Gothard (1998–99), and Jean Chetkovich (2006–), it has been responsible for the publication of twenty-five books and the continuing publication of the long-running journal *Studies in WA History*. Concern to promote professional standards, as well as the growth of public history, resulted in the formation of the state's Professional Historians Association (1989), initially chaired by Cathie Clement.

In 2001, largely through the efforts of Lenore Layman, representatives of the many history organisations in WA came together to discuss the lack of a single voice to speak for history. The result was the History Council of Western Australia, incorporated in 2003 as history's peak body to promote the study,

preservation and use of history in WA and to advocate for history.

Historical research and writing reflects trends in contemporary interests. Since the mid twentieth century there has been a considerable shift in focus in WA history from the history of the gentry and political history, to working-class history, women's history, and especially to the history of Indigenous people. These themes have all emerged in university theses in history, the source of many books on WA history. They have also been pursued in *Studies in Western Australian History*, which has been at the cutting edge in shaping WA historiography.

Since Crowley, no single historian had examined the history of the state until Geoffrey Bolton capped a remarkable career with the publication of *Land of Vision and Mirage: Western Australia since 1826* (2008).
Jenny Gregory

See also: Battye Library; Genealogical Society; Heritage; Historical records; History teaching; National Trust of Australia (WA); Royal Western Australian Historical Society; State Records Office; *Studies in WA History*
Further reading: G. C. Bolton, 'Western Australia reflects on its Past', in C. T. Stannage (ed.), *A New History of Western Australia* (1981); G. C. Bolton, 'The Next Assignments' (2004), www.heritagewa.org.au/His/Publications/bolton; F. K. Crowley, 'The Present State of Research in Western Australian History', *University Studies in History*, Vol. II, No.1 (May 1953); F. K. Crowley, 'Western Australian history: retrospect and prospect, 1952–1964', *University Studies in History*, Vol. IV, No. 2 (1963–64); C. T. Stannage, 'Western Australia's Heritage: the Pioneer Myth' (1985)

History teaching One of the earliest records of history teaching in the colony appears in a statement of curriculum in Catholic schools in 1870, but history teaching assumed a broader presence with the addition of history to the official primary curriculum in 1893. By 1913 the teaching of history was evident in all levels of state education, from the medium of storytelling in the first three years of primary school, to formal teaching methods in state 'central' schools, where history was a compulsory unit, with an expectation of between 135 and 150 minutes of study a week. The secondary school history syllabus, published in that year, coincided with the introduction of the public examination system that formalised secondary curricula for the next sixty years. Two levels of examination dictated the syllabuses and teaching of history: the Junior Certificate for students completing the compulsory three years of secondary school, and the Leaving Certificate for those completing the post-compulsory upper two years. The common method of teaching at both levels was the didactic transmission of prescribed content, tested through the medium of essay-writing, and culminating in formal assessment in public examinations. A major issue with regard to history curriculum related to the primacy of British and Imperial history, which remained predominant until the 1960s.

Criticisms of the undue influence of the examination system on the teaching of history had emerged in the 1950s, and the advent of reforms began with teachers assuming greater responsibility for syllabus construction and the summative assessment of students in the lower secondary years of schooling. Reforms accelerated from the 1970s, with the demise of the Junior Certificate and the emergence of social studies, an integrated course based on geography and history, within the school-assessed Achievement Certificate program, established in 1973. The impact of this change was that the identity and discipline of history were often lost among students at lower secondary level, and among some teachers with no previous historical training or education. History as a discrete school subject was now

only available in the upper, post-compulsory years of schooling.

By the 1980s a generation of teachers emerging from progressive university history courses and teacher-training methods demanded reforms to TEE (tertiary entrance examination) history, so that teachers could employ innovative pedagogies based on changing views in educational philosophy, psychology and sociology, and encompassed in perspectives from Great Britain, called 'new history'. Changes to TEE in 1983 and the syllabus in 1984 demanded the analysis of primary sources as an assessed technique, with resultant implications for teaching methods. In 1997 the influence of history teachers on the History Syllabus Committee saw far-reaching changes to the examination and syllabus, which led to major changes in pedagogies, a reduction of syllabus content and greater emphasis on the skills and processes of the discipline. In 2000 the Commonwealth government's Taylor report remarked on the healthy state of history teaching in WA, reflected in the growing numbers of students sitting TEE history, in contrast to trends elsewhere in Australia. Between 2001 and 2006 proposed reforms to history and ancient history in years 11 and 12, involving a single, outcomes-based course of study with no prescribed content, were discussed and shelved amid acrimonious debate. **William Allen**

See also: Education, government secondary; Historiography, Western Australia
Further reading: W. J. R. Allen, 'An analysis of curriculum policy for upper secondary school history in Western Australia from 1983 to 2000', EdD thesis, UWA (2004); T. Taylor, *The future of the past: Final report of the National Inquiry into School History* (2000)

HIV–AIDS Public health experts frequently cite Australia's innovative and pragmatic response to HIV–AIDS as a model for other countries to emulate. The dedicated response of the WA government and the communities most affected by AIDS in this state—homosexuals, injecting drug users, people with haemophilia and sex workers, who rallied to raise funds and educate their peers about the risk of HIV infection—has contributed to this reputation. Both state Labor and Liberal governments in the 1980s and 1990s rejected calls for the closure of gay bathhouses, compulsory testing of high-risk groups and the quarantine of infected individuals. Guided by the priorities of the Commonwealth government, they instead funded community-based organisations such as the gay-based WA AIDS Council to devise and implement AIDS prevention programs. This enabled the development of sexually explicit but very informative educational materials and workshops, and, after 1988, the implementation of needle and syringe exchange programs in the state's largest cities and towns. Since the introduction of these measures, the number of new HIV infections has fallen significantly since their peak in the mid 1980s.

The first case of AIDS was recorded in WA in 1983. By the end of 2004, WA had recorded 1,236 cases of HIV infection, and 315 people had died from AIDS. In 2006 there were 919 people living with HIV–AIDS in WA. Approximately forty-five HIV infections are now diagnosed in WA each year. Gay men constitute the majority, but women account for over a quarter of these new diagnoses. **Paul Sendziuk**

See also: Public health
Further reading: P. Sendziuk, *Learning to trust: Australian responses to AIDS* (2003)

HMAS *Sydney* (1934–41) was a light cruiser of the British modified Leander class. Completed in 1935, *Sydney* spent seven months on peace-keeping duties in the Mediterranean before sailing for Australia. Home ported in

Sydney, the ship conducted two 'showing the flag' cruises around Australia and had commenced a third when ordered to its war station (Fremantle) in August 1939. Following a short period of convoy escort work, *Sydney* was sent to Alexandria to join the British Mediterranean Fleet. On 19 July 1940, in the first cruiser duel of the war, *Sydney* engaged the Italian cruisers *Giovanni Delle Bande Nere* and *Bartolomeo Colleoni*, destroying the latter. This deployment, during which the Australian cruiser was awarded the battle honours Calabria (1940), Cape Spada (1940) and Mediterranean (1940),

was completed in January 1941. *Sydney* then returned to the Australia station to resume trade protection duties.

On 19 November 1941, *Sydney* was returning to Fremantle from a routine escort mission to Sunda Strait. A chance meeting with the German raider *Kormoran* off the WA coast led to an exchange of gunfire and torpedoes, resulting in the sinking of both vessels. *Sydney* was lost with its entire complement of 645 officers and men.

Due to wartime censorship the circumstances of *Sydney*'s loss were never fully
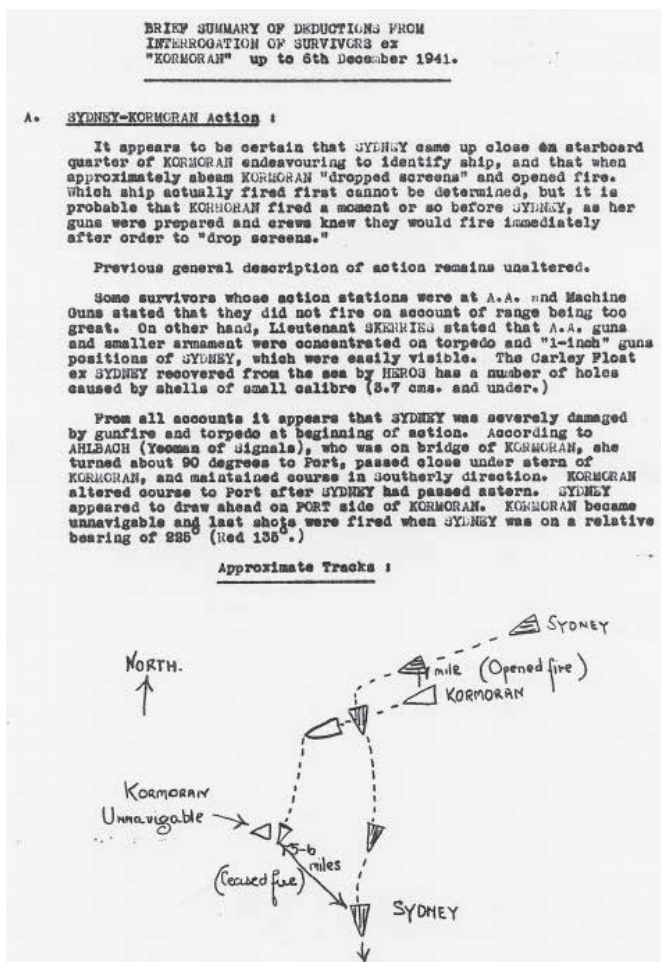
Most secret memoir with brief summary of Deductions from interrogation of survivors ex Kormoran*, 6 December 1941. From the collection of the National Archives of Australia (K997, 1/15/2)*

explained. Controversy over responsibility for the disaster led to a Commonwealth parliamentary inquiry in 1997. The subsequent report, published in 1999, made a number of recommendations but failed to adequately address decades of speculation and accusation.

The single most important aspect of HMAS *Sydney*'s loss—the location of the wreck—remained unresolved until 2008. On 16 March a search organised by The Finding Sydney Foundation and co-ordinated by David Mearns discovered the wreck approximately 112 nautical miles west of Steep Point, Shark Bay. **Wesley Olson**

See also: Navy; Second World War
Further reading: W. Olson, *Bitter victory: the death of HMAS* Sydney (2000); W. H. Ross, *"Lucky Ross": an R.A.N. officer 1934–1951* (1994); Joint Standing Committee on Foreign Affairs, Defence and Trade, *Report on the loss of HMAS Sydney* (1999)

HMS *Challenger* was described as weighing 603 tons and being 125 feet and 7 inches in length, with twenty 32-pounder cannonades on the upper deck, six 18-pounders on the quarter-deck and two 9-pounders on the forecastle. Captain Charles Fremantle was given command of the two-year-old frigate and its 160 crew in 1828 and received orders to refit the *Challenger* for foreign duty. In 1829 his vessel substituted HMS *Tweed* and, in place of Lord Churchill, Fremantle took possession of the whole of the western coast of New Holland for the Crown. Serving aboard *Challenger* were: First Lieutenant J. Mouat, Second Lieutenant J. Henry, Third Lieutenant H. Packenham, Surgeon C. Kennedy, Assistant Surgeon A. Cross, Purser G. Marsh, Lieutenant of Marines G. Griffin, and Master M. Bradshaw.

Challenger had been anchored in Cockburn Sound for almost four weeks when the *Parmelia* reached its destination. When

Stirling made an imprudent run for the Sound on 2 June 1829 and wintry weather forced his ship onto a sandbank, the *Challenger*'s crew came to the rescue and saved the *Parmelia* from being wrecked. To lighten the load, the officials' wives and children were temporarily transferred to the *Challenger* and other passengers to Carnac Island. Before settlement, Fremantle's marines prepared the mainland camp, planted vines, fashioned a new flagstaff, explored as far as the Canning River and made friendly contact with the Aborigines. They also assisted the settlers on Garden Island, transported the official party upriver to found Perth and remained until the damaged *Parmelia* was repaired.

Fremantle departed on 28 August 1829, returning briefly in 1832. One year later he relinquished command of the frigate. Naval archives record that HMS *Challenger* was wrecked off Chile on 19 May 1835 and the crew marooned on a desolate shore for seven weeks before being rescued. **Ruth Marchant James**

See also: Annexation, acts of; Foundation and early settlement; Foundation Day; HMS *Parmelia*; HMS *Success*; HMS *Sulphur*
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979).

HMS *Parmelia* was constructed on the St Lawrence River, Quebec, and launched on 31 May 1825. The 443-ton barque, escorted by HMS *Sulphur*, left Plymouth on 8 February 1829 and entered Table Bay, Cape Town, on 16 April where she remained for thirteen days. The *Sulphur*, which had become separated on at least two occasions, arrived ten days later in need of caulking. On 1 May, rather than delay departure, the *Parmelia* set sail without its escort to complete the final leg of its journey to the Swan River. The first migrant ship to reach Western Australia, the

Parmelia had on board the original Swan River colonists, the Lieutenant-Governor Captain James Stirling, his wife Ellen, their three-year-old son Andrew and a new infant, Frederick, born en route. Listed among civilian officials were Colonial Secretary Peter Brown (Broun), Clerk to the Colonial Secretary William Sheldon, Surveyor-General John Septimus Roe, Assistant-Surveyor Henry Sutherland, Colonial Storekeeper John Morgan, Surgeon Charles Simmonds, Harbour-Master Captain Mark Currie RN, and botanist James Drummond.

On reaching the west coast of Australia, bad weather conditions made entry into Cockburn Sound dangerous. After unsuccessfully attempting to enter the Sound between Carnac and Garden islands, the *Parmelia* sailed around Rottnest to enter the Sound from the north on 2 June. Disaster struck when, in sight of the *Challenger* at anchor in the lee of Garden Island, *Parmelia* hit a sandbank. Captain Fremantle and the *Challenger* crew fought for eighteen hours to prevent the *Parmelia* 'from going down on the reef towards Woodman's Point, which she was doing fast'. She floated free in the early hours of the morning, having lost her rudder, windlass, spare spars, foreyard, longboat and skiff. During the ordeal the officers' families were transferred to the *Challenger* and other women and children, as well as stores, were landed on Carnac Island to lighten the ship.

Considered no longer seaworthy and badly in need of repairs, the *Parmelia* was safely anchored between Garden Island and the *Challenger* to be careened at a site now known as Careening Bay. While repairs were undertaken, a temporary settlement was established on Garden Island. Most settlers were not transferred to the mainland until July 1829. Meanwhile, Captain Fremantle reluctantly delayed his departure until August to assist, although an investigation revealed that the ship had no major damage other than the copper on her hull being somewhat rubbed. Ten years after her journey to the Swan River the *Parmelia* was destroyed by fire while undergoing repairs at a dockland on the Cornish side of the Tamar River. **Ruth Marchant James**

See also: Annexation, acts of; Foundation and early settlement; Foundation Day; HMS *Challenger*; HMS *Success*; HMS *Sulphur*
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979)

HMS *Success*, a warship mounted with twenty-eight guns, was launched on 30 August 1825 and put into commission shortly afterwards. On 26 January 1826, Captain James Stirling, who had been on half-pay for some eight years, was recalled for duty and given command of the ship with orders to sail to Sydney and relocate the 1824 Melville Island settlement to a more suitable site. Due to the oncoming monsoon season, Stirling's mission was delayed and discussions with Governor Ralph Darling led to permission being granted to re-examine the Swan River and report on the region's suitability as a future colony. His visit coincided with the departure of Major Lockyer to establish a military outpost at King George Sound (Albany).

HMS *Success* left New South Wales on 17 January 1827 and called first at Van Diemen's Land (later known as Tasmania). The vessel arrived off Rottnest Island on 5 March and three days later Stirling's party set out from the mouth of the Swan River to explore upriver in a gig and cutter. Stirling noted in his journal: 'The two boats, contained in all 18 persons, one part of which consisted of Lieutenant Belches, Mr Surgeon Clause, Mr Fraser [NSW colonial botanist], Mr Garling, Mr Heathcote and myself: the other of eight seamen and four marines.' The trip was smooth sailing until they reached the river mud flats and further progress necessitated a great deal of manhandling of the boats.

Finding a 'Spring of delicious Water' (Success Hill), the party was for the first time approached by a group of armed Aboriginal people who, after a threatening encounter, left on friendly terms. After reaching a junction of the Swan River the group split into three parties to explore in a northern and westward direction and eastwards to the hills. The survey party commenced its return journey on 15 March, and on the following day they passed Point Heathcote and observed the French-named Entrée Moreau (Arm of the Sea). At that Point Lieutenant Peter Belches spent two days examining what proved to be the Canning River.

HMS *Success* departed for Sydney on 25 March, calling first into Geographe Bay and King George Sound. Before continuing to Melville Island to complete his original assignment, Stirling presented Darling with a report he considered to be 'a professional observation'. The inspections he had made had reinforced his belief that earlier adverse reports about the poor soil and lack of fresh water and a safe anchorage were inaccurate. In his opinion the north-east side of Rottnest Island offered a 'good temporary anchorage'. Furthermore, there existed 'an excellent roadstead for Vessels of every Size' not far from the mouth of the river, and he could foresee no great problem, or expense, involved in removing the limestone bar obstructing the entry to the river. Cockburn Sound, protected against the westerly and northerly winds by Garden Island, was also given Captain Stirling's full approval as a safe anchorage. Convinced that he had discovered a 'rich and romantic Country', he reported that it was 'Situated in a Climate which admits Labour' and 'possessing great varieties of excellent Soil, well watered by Springs, Creeks and refreshing Showers… it appears to hold out every attraction that a Country in a State of Nature can possess'. On Stirling's return to England he promptly set out to convince the Colonial Office that the Swan River area could indeed sustain a successful colony of free settlers.

In 1827, a week after returning to Sydney, HMS *Success* was chosen as the flagship for the first regatta held in Australia. **Ruth Marchant James**

See also: Albany; Foundation and early settlement; Garden Island; Rottnest Island; Swan River mania
Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979); J. Shoobert (ed.), *Western Australian exploration*, 1 (2005); P. Statham-Drew, *James Stirling: admiral and founding governor of Western Australia* (2003)

HMS *Sulphur*, a two-deck sloop measuring 105 feet in length, was initially chosen to carry the Swan River Colony's founder, Captain James Stirling, the officials, colonists, a detachment of the 63rd Regiment, and their families to the western coast of Australia. According to the Under-Secretary for the Colonies, any ship sent to establish the new settlement must have space for 120 to 150 adults, pioneering necessities, implements and enough provisions to last a year. Stirling was not impressed with the economical decision to send only one ship on the journey and was granted permission to select a second vessel. In December 1828, *Parmelia* was also chartered for the long voyage south.

Under the command of Captain William Dance RN, *Sulphur* sailed from England on 8 February 1829 and arrived in Cockburn Sound on 8 June, one week after *Parmelia*. Excluding the sixty rank and file sent out to protect the colonists, on board were: Mesdames Dance and Milligan, First Lieutenant William Preston RN, Dr Alexander Collie RN, Lieutenant John Sicklemore RN, Purser Richard Sholl, military commandant Captain Frederick Irwin, officers Lieutenant William Peder, ensigns David McLeod and Robert Dale, and Surgeon Dr William Milligan, a replacement for *Parmelia* passenger Dr Tully

Daly, who with his young daughter had drowned at Capetown.

HMS *Sulphur* not only conveyed the first military force to the colony, and later transported much-needed provisions from India, but for three years the vessel assisted in coastal exploration. Later, under a new commander, the vessel was employed on active service in China. **Ruth Marchant James**

See also: Foundation and early settlement; HMS *Parmelia*

Further reading: R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River, Western Australia* (1979)

Hockey Early records indicate that schoolgirls played hockey in the late nineteenth century. Both men and women played the sport in Western Australia in 1903, an interclub competition started three years later, and the Western Australian Hockey Association (WAHA) was formed in 1908. Early WA teams were mainly located in the Perth metropolitan area, though the Wilberforce Club, which emerged in 1906, carried the name of the Hamersley Farm and Homestead, near York. Australia's first country hockey association was formed in York in 1908—two years before Goulburn in regional New South Wales.

In its early years the WAHA was located at the Western Australian Cricket Association (WACA) Ground in East Perth. Matches were also played at the Royal Agricultural Society's Claremont Showgrounds and at the South Perth Zoological Gardens, as well as grounds throughout Perth's suburbs. In the first five seasons of the WAHA, Wilberforce won the leading honours, the Hope Cup, three times. Perth, Fremantle, YMCA, Claremont and Guildford were the other competing teams during the formative years of competition. Interclub matches continued until 1915, when the First World War caused the association to go into recess until 1920.

Competing at its first interstate series in 1928, WA became Australia's most powerful men's side, winning its first national title in 1929 and eventually twenty-nine of the sixty-one national championships (48 per cent of the national titles) until they were discontinued in 1992. The National Hockey League was then formed, and WA teams have won six of the fourteen titles to 2005.

The Western Australian Ladies' Hockey Association was formed in 1916, changing its name to the Western Australian Women's Hockey Association in 1928. Like the WA men, the WA women's teams have dominated the Australian championships, taking out the national title thirty-nine times between 1946 and 1993—an incredible 83 per cent of the national titles.

In 1978 the federal government provided funds to construct an international-standard synthetic hockey stadium on the campus of the Western Australian Institute of Technology (now Curtin University). The facility was opened the following year. The hockey unit of the Australian Institute of Sport was established in Perth in 1984 at the Curtin facility.

Western Australia's two most famous hockey families are national representatives: brothers Cecil, Eric, Mel, Julian and Gordon Pearce, and Jean, Morna, May and Caroline Pearce (the sisters are not related to the male players). Jean, Morna and May all captained Australia. Eric's daughter, Colleen, also carried on the Pearce family tradition when she was a member of the Australian women's team at the 1984 Olympics.

In recent decades WA has produced more players than any other state in national teams. Eight members of the Australian Olympic men's team in Los Angeles in 1984 were from WA, and the state provided half of the women's team that won Australia's first Olympic hockey gold medal at Seoul in 1988. Western Australia's Rechelle Hawkes is Western Australia's most decorated player, playing at four Olympic Games, winning three gold medals (1988, 1996

and 2000) and playing an Australian record 279 international games. Western Australians Richard Charlesworth, coach of the national women's hockey team from 1993 to 2000, and Eric Pearce are also four-time Olympians.

In 2003 the WA Men's Hockey Association (WAMHA) and the WA Women's Hockey Association (WAWHA) were amalgamated to form Hockey WA. **David Marsh**

See also: Western Australian Institute of Sport; Western Australian Olympic Medallists (list)
Further reading: J. Pollard, *Ampol's sporting records* (1968); J. Shepherd, *Encyclopedia of Australian sport* (1980); W. Vamplew, K. Moore, J. O'Hara, R. Cashman and I. Jobling (eds), *The Oxford companion to Australian sport* (1994)

Holland Track For prospectors feverish to access the goldfields, the track taken was of immense importance, especially considering the desolate, arid conditions. Routes to the auriferous outback proliferated in the late nineteenth century, following Aboriginal soaks or gnamma holes. These trails invaded the often hostile hinterland of every area of the colony and state, leading to unexpected exploration and opening up of the interior.

In 1854, an early surveyor, C. C. Hunt, cut a track east from the rail head at York and sank wells. Twenty-seven years later, this would become the highway to Coolgardie. He discovered water at Gnarlbine Rock, close to the gold that Bayley and Ford would locate in 1892. When John Holland and his party of three left Broomehill in 1893 to forge a trail to the goldfields from the south-west of the colony, Gnarlbine Rock was their destination. Holland was accompanied by Rudolph and David Krakouer (sons of Jewish convicts transported to WA in 1851) and John Carmody, the teamster. Their intention was to provide a transportation route for prospectors leaving their ships in Albany, and for stores

to be conveyed over the shortest possible distance.

Holland's Track was the longest cartwheel track of its time in WA, covering 320 miles and taking two months and four days to complete, using a horse-drawn dray to cart 100 gallons of water. It is estimated that 18,000 prospectors and purveyors used the track over a short period from 1893 until the railway line from Northam to Coolgardie was completed in 1896.

Many prospectors pushed barrows, laden with food, water bags and equipment for their search along the track; others, called swampers, walked beside drays or camel trains; and some humped their swags. Pioneers as well as prospectors benefited from Holland Track, as it is now called. It provided access to the Lakes farming districts until the Second World War. Much of the southern portion of the track has now been lost due to land clearing, but sections of the narrow wheel ruts can be walked, and the northern section is navigable by four-wheel-drive vehicles.

Holland Track is only one of the several important routes taken by prospectors to reach goldfields in the Kimberley, Pilbara, Murchison, and Eastern Goldfields. It was only those who wished to travel directly from Albany to the Eastern Goldfields who used Holland Track. Many people travelling to Coolgardie and Kalgoorlie followed the established route from Perth along Hunt's Track. The story of the Kimberley tracks, where hundreds died making arduous journeys from Derby and Wyndham to Halls Creek, needs further research. **Catherine Kelly**

See also: Albany; Eastern Goldfields; Gold; Transport
Further reading: M. Uren, *Glint of gold: a story of the goldfields of the West* (1980); H. H. Wilson, *Gateways to Gold* (1974)

Homelessness, like poverty, has been a persistent feature of Western Australian society

since 1829. Makeshift and temporary housing was the norm during the colony's early years, but as more settlers realised the widely held aspiration of secure tenancy or ownership of dwellings in towns or on farms, a class of destitute or itinerant citizens emerged: Aboriginal fringe dwellers; the aged; alcoholics; the mentally ill or disabled; single mothers, and abandoned children. By the 1850s churches and philanthropists began establishing institutions designed to remove the homeless from conspicuous public display, so that WA acquired its first poor houses, old people's homes, asylums, homes for 'fallen women', orphanages and industrial schools. The great demographic boom and social dislocation of the 1890s gold rushes created more homelessness than ever before: temporary camps housed thousands at Perth or on the goldfields; arrests for vagrancy skyrocketed; and public attention was periodically fixated upon sensational reports of hungry, uneducated and scantily-clad 'waifs', abandoned by parents, and roaming wild in the streets or in the bush beyond the suburbs.

Homelessness was again made acute by the Great Depression of the 1930s, as the unemployed took to sleeping on the Perth Esplanade or in camps beside the Swan River, and hundreds turned to roaming outback districts in the vain search for work and lodgings. In the 1950s the state's own 'skid-row' developed at East Perth, as an underclass of drifters and the impoverished began increasingly to inhabit laneways and vacant land behind factories, or the blighted cottages and boarding houses built during the nineteenth century. From the 1960s other categories of homeless people also turned increasingly to the shelters and low-cost housing of the inner city: de-institutionalised people with psychiatric illnesses or intellectual disabilities; women and children fleeing domestic violence; and homeless youths. The greater availability of illicit drugs and the corresponding rise in destructive substance abuse contributed a new dimension to an old problem.

Although a public housing program had existed since the early twentieth century, it was only in the early 1950s that the State Housing Commission (a forerunner to Homeswest) began directly targeting social groups most in need of permanent accommodation. When the Australian Bureau of Statistics enumerated homelessness for the first time in 1996, figures showed that over 12,000 people, or 71.5 per 10,000 of the population, were homeless on census night in WA. The proportion had fallen to 64 per 10,000 by 2001, but, in 2004, still remained higher than in any other state. During these years, successive state governments produced a number of official reports on the issue, with official policies culminating with the Labor government's implementation of the State Homeless Strategy in 2002. In the meantime the Salvation Army, the St Vincent de Paul Society and other charities continue to provide more immediate care for the homeless in WA. **Joseph Christensen**

See also: Depression; Disability, intellectual; Drug use; Fringe dwellers; Mental health; Orphanages; Poor houses; Poverty; Public housing; Welfare; Women's refuges
Further reading: C. Chamberlain and D. MacKenzie, *Counting the Homeless 2001: Western Australia* (2004); C. W. Collins, 'Matters of Social Conscience: Western Australia 1829–1890', *University studies in history*, 5 (1968); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); C. T. Stannage, *The people of Perth* (1979)

Homosexuality The history of homosexuality is one not only of same-sex practices but also of relationships. It starts in Western Australia with Aboriginal people, for whom same-sex practice had a place in ritual and within relationships.

The earliest account of 'the abominable and god-forsaken deeds of Sodom and Gomorrah' among Europeans in WA was recorded

in 1727 when the Dutch East India Company ship *Zeewijk* was wrecked on the Abrolhos Islands. During the year survivors waited on Gun Island, two boys, Adriaen Spoor and Pieter Engels, were found committing homosexual acts. They were subsequently marooned on two outer coral islands and left to die.

In 1865 WA revoked the death penalty for 'sodomy', replacing it with a sentence of life imprisonment. Court records from 1880 to 1900 show evidence of men having sex together in Perth and the goldfields. At the turn of the century the penalty was further reduced to fourteen years' hard labour, with or without a whipping. The Australian slang term 'poofter' was first used in 1903. Because there was no criminal penalty for sex between women, such activity is not mentioned in court records. However, the history of other places in Australia would indicate that sex between women was similarly seen as a social evil. From the 1920s to 1940s, euphemisms such as 'confirmed bachelors' and 'constant companions' were used to maintain the discretion necessary for those in same-sex relationships, particularly for public figures such as Noel Coward, who visited Perth in 1940, and Alice Mary Cummins, the first woman admitted to the Bar in WA and later the director of Hannan's Brewery in Kalgoorlie, who began a relationship with Mollie Redvers-Bates and lived with her at Crawley in the late 1930s.

During the Second World War, homosexual men served not just as soldiers but also, importantly, in the entertainment troupes, where their efforts at keeping up morale were recognised. Homosexual women also served in the army. From the 1950s homosexuality was labelled 'vice' by authorities and particularly targeted by police for investigation and criminal conviction. Newspapers reported police raids on parties and blackmail cases involving prominent people. The threat of public exposure was a huge problem for both women and men and could cause the destruction of people's lives.

Despite the dangers of visibility in the 1950s, homosexual identity survived. Evidence of 'drag' parties emerged in Perth and 'gay high society', courtesy of amateur theatre and the ABC, met at the Palace Hotel, which also featured in Gerald Glaskin's *No End to the Way* (1965), a novel narrated by Australia's first openly homosexual character. Beats—places where men could go to obtain anonymous sex—were established on the Esplanade in Perth, Hackett Drive, Crawley, Swanbourne Beach and Applecross Jetty. In the late 1960s and 1970s, changing social attitudes and more venues enabled diverse communities of gay and lesbian people to flourish. The 'downstairs bar' at the Savoy Hotel, the Shaftesbury, the Balcony Bar at His Majesty's, the Paddington, Holly's, Beaux Coffee Lounge and Connections (est. 1975 and still open) were found in Perth. In Fremantle, the Cleopatra Hotel provided a notorious alternative, where Indigenous and non-Indigenous homosexual men and women mixed with 'sailors, crims, knockabouts and good-time girls'. A lively 'camp' community, the Village Theatrical Group (VTG), organised dances at Redcliffe Hall, and other social events like Arts Balls. These featured 'drag' appearances by local identity Queen Victoria (Vic Francis), who also opened a gay sauna in Roe Street, Northbridge, in 1974.

The first openly homosexual group in WA, Campaign Against Moral Persecution Inc. (CAMP), established in 1971, was based in Outram Street, West Perth, where it also ran the Spartan Club. People instrumental in CAMP WA included David Myers, Graham Douglas, Brian Lindberg and Vivienne Cass. The Metropolitan Community Church, with gay priest Max Karnaghan, ministered to the gay community in the 1980s, along with groups like Acceptance.

From the late 1960s through to the 1980s, homosexual history has points of connection with many of the social justice movements, including the Vietnam War moratorium movement, student activism,

women's liberation, gay liberation and the peace movement. In particular, the visibility of lesbians expanded, both geographically and politically. Karin Hoffman created the feminist/lesbian 'Lespar Library' from her home in Darlington (1979–95). From 1975 to the mid 1980s the 'Walkabout Shop', an all-women trucking business managed by lesbians, which sold merchandise to Aboriginal communities, operated in the Kimberley. Feminist groups like the Women's Electoral Lobby (WEL) and Women's Centre Action Group (later Women's Liberation) were both active from 1975, advocating women's rights to chose their sexual partners, and the newsletter *Grapevine* began in 1980. WA lesbians were part of a collective that organised the national Cockburn Sound Women's Peace Camp (December 1984). Women filmmakers made documentaries such as *Spot the Lesbian* (1984) and *Tokyo Rose Goes North* (1984).

In the early 1980s a vigorous response to HIV–AIDS by individuals such as Ray Currell and the Gay Activities Group (GAGS, 1978–2002) meant fundraising events like the 'Gay Olympics' supported not only the Gay and Lesbian Counselling Service (est. 1974) and Ward 10 at Royal Perth Hospital, but also helped start the WA AIDS Council (1985). In the late 1980s and early 1990s gay men and lesbians met with a renewed desire to work together for political change. Editor Gavin McGuren encouraged this process in the broadly read gay newspaper *The Westside Observer* (est. 1987). Gay men and lesbians met at the 'Blue Room', Northbridge Hotel (1984–94), the Red Lion (1986–87), the Court Hotel (1992), and the Loton Park Tennis Club (1992). The WA AIDS Council played a significant role in community development and homosexual people became more visible in the community with the rise of openly gay and lesbian politicians: John Hyde, Brian Greig, Giz Watson and Louise Pratt. The popular Pride Parade and Festival was formed in 1990 and the Gay Law Reform

Group of WA (later Gay and Lesbian Equality, or GALE) worked towards the successful adoption by the Western Australian parliament of the Lesbian and Gay Law Reform Bill 2001. Political reform in the area of state rights has meant gay men and lesbians now have rights equal to heterosexual people in many aspects of their lives. **Jo Darbyshire**

See also: Equal opportunity legislation; Gay and lesbian law reform; HIV–AIDS; Women's Electoral Lobby

Further reading: J. Bavin-Mizzi, '"An Unnatural Offence": Sodomy in Western Australia from 1880 to 1900', in Charlie Fox (ed.), *Historical Refractions: Studies in WA History*, 14 (1993); Gays and Lesbian Aboriginal Alliance, 'Peopling the Empty Mirror–The Prospects for Lesbian and Gay Aboriginal History', in R. Aldrich (ed.), *Gay perspectives II: more essays in Australian gay culture* (1993); D. Meyer, 'The homosexual law reform campaign in Western Australia', *Word is Out: online journal for gay, lesbian and queer liberation*, 4 (2002)

Horseracing The colony's first horserace meeting was on 'The Downs' in South Fremantle on 2 October 1833, using Timor ponies. Thoroughbred horseracing began in 1836 in a meeting on a track at Guildford. During these early years most thoroughbred horse breeding was carried out by Governor James Stirling and W. L. Brockman using well-bred stallions imported from England, thus beginning an association between thoroughbred racing and the Western Australian upper class that has never been lost.

In 1852 the WA Turf Club (WATC) was formed to improve thoroughbred breeding and to conduct regular race meetings under set rules and regulations. On 1 June 1888 the WA Stud Club was formed to plan race meetings in Perth, at the Subiaco limekilns, and at Wembley and City Beach. The Club's first race meeting was believed to be on land where

the Queens Gardens is now located. In 1877 the WA government leased the Ascot course, where racing meetings had been held since 1848, to the WATC for 199 years. In those days the course was only a bush track with some sandy reaches surrounded by a three-rail fence. There was no grandstand, only a small two-storey structure. Horses were stabled in bough sheds and a special area was reserved for the WATC committee and members. Only one race picnic meeting was held each year, at Easter time. Ascot eventually became the headquarters of the WATC, which developed the course and became the ruling body of thoroughbred racing in the colony.

By the end of the nineteenth century thoroughbred horseracing had become a spectator sport, but with pronounced social distinctions. The WATC committee was made up of Perth's social elite; the wealthy became members and owners and the poor became patrons. The sport had also become more professional. Registered jockeys rode horses trained by professional trainers and owned by registered owners; a thoroughbred breeding industry provided the horseflesh; professional starters, stewards and handicappers administered; while registered bookies laid the odds.

As the gold rushes of the 1890s fuelled a booming population, several privately owned 'proprietary' thoroughbred racing clubs and pony clubs were established in Perth. The WATC licensed and regulated the former but refused to countenance the latter. The pony clubs, racing at Goodwood, Bicton and South Perth, were raffish places, often mired in scandal, but offering a congenial atmosphere to working-class racegoers. Nonetheless, they were closed in 1917 in the context of concerns over wartime austerity. With courses at Helena Vale, Belmont Park, Canning Park and Goodwood, the proprietary clubs continued until the 1940s, until they too were closed. Henceforth, the WATC ruled the racing roost, but it had to deal with other challenges. It reconciled itself to trotting but fought against

illegal off-course betting, which it believed seduced racegoers from its courses and deprived it of gambling revenue. However, by 1961 it abandoned its opposition and began to reap the rewards of legal off-course gambling when the TAB was established.

Country racing thrived in the early years of colonisation, with most meetings run by local farmers and other elites, and with racing clubs subsequently forming in the larger rural townships. The earliest country race meeting was held at York in 1843, followed by Bunbury (1854), Vasse (1856), Champion Bay (1861), Victoria Racing Club (1862), Northam (1863), Irwin (1864), Toodyay (1865), Roebourne (1867), Murgoo (1880), Coolgardie and Kalgoorlie (1896) and Boulder (1897). The Kalgoorlie, Boulder and Coolgardie clubs eventually amalgamated in 1946 to become the biggest country club. 'The Kalgoorlie Round', as it is known, is run every September and attracts the attention of racegoers from all over WA. In 1959 there were fifty registered country clubs in WA. From 1972, clubs had to be licensed with the WATC, and consequently many rural clubs closed down. By the end of the century they numbered in the mid thirties. Some of these ran well-known and regular meetings; others came together for just one or two. These became social events for their surrounding districts.

Perth has always been horseracing's centre. For much of its history, the tyranny of distance made sure it developed in isolation from racing in the east, although the best Western Australian horses usually held their own there. An attempt in the 1970s to attract top eastern states' horses to the Perth summer carnival was a short-term success but a long-term failure. After the demise of the 'ponies' the WATC controlled racing, although it has been forced to give up some of its power, especially over gambling, to the state. Horseracing remains popular, especially with off-course punters, which has enabled it to prosper in the face of declining attendances,

but it is responsive to economic conditions. The introduction of alternative forms of gambling means the sport gets an ever-smaller proportion of the overall gambling dollar. Nonetheless, it continues to maintain a healthy thoroughbred racing industry. **Barry J. Green and Charlie Fox**

See also: Gambling; Lotteries; Trotting
Further reading: J. Tomlinson, *Born winners, born losers: a history of thoroughbred breeding and racing in Western Australia since 1833* (1990)

Horses, transport Horses were essential to the development and spread of European settlement in WA. For nearly a century after colonisation, horse-drawn carts, buggies and coaches dominated road transport in the towns and countryside, draught horses (Clydesdales, Suffolks and Shires) were crucial to many aspects of farming, and riding horses were vital for transportation to everyone dwelling outside urban areas. Stud farms had been established by the 1840s, but well before this, many property owners stood a stallion or two at their farming properties, and travelling stallions, who were walked through several districts to service mares as they went, were commonplace. The population of horses increased rapidly during the era of convict transportation; and numbers surged again during the gold rushes of the 1890s, before doubling in the decade 1900–10 as land settlement intensified in the Wheatbelt and South-West. Large numbers of Western Australian horses were also sent away to the Boer and First World Wars. The population of horses peaked at approximately 183,000 in 1923, declined gradually in the 1930s, and fell away markedly after the Second World War, as motorcars, motorcycles, buses and trucks took over the highways and the streets of the capital and towns, and tractors took over on farms. A corresponding decline occurred in the once widely

held skills of horsebreaking and riding. In 2004 there were only 10,100 horses in WA. **Joseph Christensen**

See also: Exotic fauna; Transport
Further reading: G. McLaren, *Lunatics, legends and lotharios: a history of showjumping in Western Australia* (2003); G. McLaren and the Research Institute for Cultural Heritage, Curtin University, *Big mobs: the story of Australian cattlemen* (2000)

Horticulture The beginning of the horticulture industry in Western Australia is closely linked to permanent European arrival. The first settlers recognised their need for familiar fresh food and brought with them appropriate technology, skills and propagating material.

The first record of the cultivation of horticulture crops was the planting of vegetable gardens, used to supplement existing food supplies, by Major Lockyer, in the Albany area in 1826. Subsequently, when Captain Fremantle arrived in advance of the first Swan River settlers in 1829, he had instructions to prepare a campsite for the new arrivals and had his men clear and prepare land for a garden, which included vegetables and vines, near the mouth of the Swan River.

The vegetable industry grew steadily, boosted by the introduction of convicts to the colony in 1850. This increased the market for produce and provided a cheap labour force. Market gardeners, like James Gallop at Dalkeith, flourished. In 1872 he and his brother Richard (who was equally successful as a market gardener in Perth) swept the field at the Perth Horticultural Society's Annual Show. James won cash prizes for grapes, currants, bananas, plantains, watermelons, sweet melons, peaches, figs, capsicums, cucumbers and 'a very fine sample of sweet wine manufactured from muscatel grape'.

The huge population growth during the gold rushes gave a dramatic boost to both demand and the financial return on fresh

vegetables. New 'market gardens' were developed, focused on swamps with good natural fertility and moist soils that could be cleared and cultivated.

In this period Chinese market gardeners were important growers of vegetables in Perth, using age-old intensive methods of irrigation—on the Nedlands foreshore, the South Perth foreshore, and on low-lying land in North Perth around the lakes. Up to the 1930s they were familiar figures in the older suburbs of Perth, pushing a cart and selling their wares on a regular delivery round.

In the 1920s the introduction and adoption of irrigation and artificial fertilisers allowed the market gardens to expand beyond the swamps. There was also a significant influx of migrants in the 1920s, and many were attracted to vegetable growing. This included English, Italian, Yugoslav and Greek migrants who developed vegetable farms around the Osborne Park swamps and in the South-West.

There are now major vegetable production operations on a wide range of soil types. Farm size is expanding to ensure commercial viability and is supported by increasing mechanisation. The industry has grown and expanded from the 1920s through to the current day, to include major centres in Albany, Manjimup, Carnarvon and Kununurra. The industry is facing the challenges of globalisation, with increasing competition from low-cost producing countries such as China. This competition began in the late 1990s as China moved towards a more market-style economy.

Grapevines were successfully introduced to the colony from South Africa in the 1830s, and plantings expanded rapidly, with the main areas being close to the original settlement areas. The production was mainly for local consumption as there was little experience of converting the fruit into dried product or wine at the time. The industry grew with the population and reached 1,200 hectares by the time of the First World War. After the war there was strong demand for land for soldier settlers and new immigrants in the major vine production areas; in the Swan Valley all of the land was planted to vines. Over the next thirty years the industry continued to grow grapes for fresh, dried and wine production, and reached over 4,000 hectares by the end of the 1940s. Export markets including Singapore, Colombo and Europe developed for fresh and dried grapes.

Economic conditions changed quickly after the Second World War and vine plantings declined. Farmers shifted focus from viticulture crops in some regions to more lucrative opportunities such as wool production, and export opportunities declined as sea transport became less available. However, the recognition of the suitability of the South-West and Great Southern regions for premium wine production in the 1980s led to major development of the industry. New wine-making technologies and increased demand has resulted in strong industry growth, with the value of the wine industry reaching $221 million in 2002. The introduction of new varieties into the table grape industry and the emergence of new production regions in the north of the state has resulted in significant growth of the table grape industry in the past decade.

The fruit industry also grew steadily after settlement, in line with the expanding population. The gold rushes provided new market opportunities and fruit growing was very profitable. In fact, a key focus of the Bureau of Agriculture, founded in 1894, was the prevention of the introduction of pests and diseases in fruit crops. In 1897 the Mediterranean fruit fly was found and became established in the face of unsuccessful attempts at eradication, and even today remains a major problem for fruit growers.

In 1890 there was strong interest in the development of export markets for fruit. By 1910, efforts to establish an export trade were successful, with good prices for shipments sent to London. This resulted in renewed

interest and plantings. During this period the benefit of cool storage was recognised. The orchard area increased to over 8,000 hectares by 1914, and apple exports were growing. The First World War was a turning point for the industry, which was badly affected by lack of shipping freight and poor prices. After the war, the industry was slow to recover, but plantings began to expand again, as did fruit exports. The industry then grew, with exports to Europe of the variety Granny Smith reaching over 1.5 million bushels. Production technologies continued to improve, with the addition of irrigation, fruit thinning and post-harvest technologies. The fruit industry experienced major changes in the 1970s with the introduction of a tree-pull scheme to reduce plantings of apples and pears as prices for the fruit were at low levels, and a stabilisation scheme to manage exports to Europe. The current industry is technically advanced, achieving high yields of quality fruit. The industry is also innovative, and this is demonstrated with the development of new varieties. The Lady Williams apple, found by a Mr A. Williams in Donnybrook in 1935, has become a significant variety in the marketplace. In more recent times, the successful release of the apple varieties Cripps Pink (Pink Lady™) and Cripps Red (Sundowner™), bred by Mr Jon Cripps of the Department of Agriculture, have become major varieties for WA and the world. These varieties are grown in all of the world's major production countries, including Europe and the USA. **Terry Hill**

See also: Agriculture; Food labels; Food processing; Food production, suburban; Wine
Further reading: G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979)

Hot Pool The Hot Pool began its colourful existence in the 1920s as a hand-dug depression filled with hot water from a burst

Hot pool, Dalkeith, n.d. Courtesy West Australian *(HIST 5625)*

artesian bore on the Dalkeith foreshore. The bore serviced Sunset Hospital on the hill above. The pool became popular as a therapeutic place for the invalid aged, and where campers, yachters and kids bathed. Soon a more salacious Hot Pool was discovered by the Perth *Mirror*, and together they fuelled a city's sensual fantasies. 'HIGH JINKS AT THE HOT POOL' was the favourite headline for the *Mirror*'s signature stories, which included well-worked phrases like 'the squeal of a delightfully offended female' or 'a stranger kissed me by moonlight'. The pool, by now cement-lined, reached its peak of summer night-time activity during the Second World War, when US air crew were based nearby. Then it started to run out of steam—literally. Author Robert Drewe lived on the hill above the pool and wrote that it was 'slimy and smelled of rotten eggs'. It had other problems too, with residents objecting to the squeals of the 'delightfully offended'; and there were health issues. The *Mirror* reported in October 1953 that 'Perth's too hot pool' had been closed and the bore filled with concrete. The old Hot Pool site is behind Tawarri Reception Centre. **Ron Davidson**

See also: *Mirror*; Night-life; Youth culture
Further reading: R. Davidson, *High jinks at the Hot Pool* (1994); A. Whyntie, *The history*

of Sunset Hospital (1999); A. E. Williams, *Nedlands: from campsite to city* (1984)

Hotel industry The hotel industry has an unbroken record of service since 1829. There is probably no other industry or trade that has been a part of Western Australia's history since settlement that is still trading on effectively unaltered principles—the provision of accommodation, food and liquor.

The colony's first liquor licences were granted to seven dwellings in the Swan River Colony on 1 January 1830. In April that year, the first wayside inn (Bush Inn) was licensed to John Butler on 250 acres at Freshwater Bay. By 1833, Fremantle had one public house for every ninety people.

Trading was originally from 6 a.m. to 10 p.m., seven days a week, but in 1839 Sunday trading was banned. In 1855 Governor Arthur Kennedy's attempts to limit the number of licences drew an outcry over the narrowing of settlers' freedom and Kennedy's 'crusade against drunkenness' and 'creation of monopolies'.

The biggest turning point for Western Australia's hotel industry was the gold rushes of the early 1890s. In its heyday, the mining town of Southern Cross had nineteen hotels, Coolgardie twenty-six and Kalgoorlie-Boulder more than one hundred. In 1900, Western Australians each consumed an average of twenty-three gallons of beer or one gallon of wine or one gallon of spirits per annum.

The gold rush also led to a boom-time legacy of over-licensing that perplexed governments and hoteliers for years. By 1911 there were 1,649 licensed premises in WA—one for every 171 people. Most were in the goldfields. Cue had one licensed premises for every fifty people. In response, the Scaddan Labor government introduced state hotels and Local Option Polls (referenda) to reduce licences or hand them over to the state. However, the referendum results were

unhelpful. In 1921, Coolgardie, which had one hotel for every 175 people, voted for a continuance of the number of licensed premises, while Leederville/Subiaco, with one hotel per 3,870, wanted a reduction. In 1922 the Licenses Reduction Board was established, and by 1930 it had de-licensed 110 premises, most in the metropolitan area. Nonetheless, Western Australians remained the biggest drinkers in Australia.

The economic boom of the 1960s led to great hotel development, more sophistication, and by the late 1960s more than 70 per cent of WA hotels were not owned by the proprietor.

Most recently, drink-driving law and enforcement has led to a major shift towards alcohol consumption at home. This in turn has led to the expansion into the liquor market of multinational supermarket chains. Despite pressure from the hotel industry, WA remains the only state where on-premise gaming is not permitted. **Caroline de Mori**

See also: Brewing and breweries; Drinking; Eating places; State hotels; Tourism
Further reading: C. de Mori*, 'Time, gentlemen': a history of the hotel industry in Western Australia* (1987); S. Welborn, *Swan, the history of a brewery* (1987)

Housing From the establishment of the Swan River Colony in 1829 until the 1890s the quality of housing in Western Australia generally suffered, due to a lack of readily available building materials and a shortage of affordable labour.

The few remaining houses of the early to late nineteenth century, such as Tranby House, Maylands (1839), are of a basic English vernacular construction. Apart from The Deanery, Perth (1859), a pattern book Gothic villa, few houses displayed the stylistic details evident in contemporary houses in the other Australian colonies. Because of high transport costs, houses were generally constructed

using locally available building materials, namely brick, limestone and weatherboard. Corrugated iron was popular in the country because it was relatively light and therefore inexpensive to transport.

The gold boom of the 1890s, coinciding with an economic depression in the eastern colonies, provided the economic impetus to lift housing standards. Between 1890 and 1900 the population in WA grew from 46,290 to 179,708. Many unemployed architects, builders, labourers, and suppliers of building materials, particularly from Victoria, migrated to WA.

Housing standards increased dramatically as new building materials, Italianate stylistic details and finishes, piped water, sewerage, gas and electricity became widely available. The expansion of the train system and the introduction of suburban trams (1899) enabled workers to live further away from the city centre in newly subdivided suburbs, such as North Perth, Subiaco and Victoria Park. A single-storey, double-brick and iron house built on a quarter-acre block became an achievable goal for the majority of new home owners. Consequently, Perth has few examples of the inner-city terraced housing evident in other Australian capital cities.

A distinctive and characteristic change in the history of house-building came about after the *Workers Home Board Act 1911* and the First World War. In the standard nineteenth-century folk house, with main rooms located each side of a central passage, there was no differentiation of use or function, as any room could be used for activities such as withdrawing, sitting, sleeping, eating and sometimes cooking. Especially in the post First World War Workers' Homes Board designs, bedrooms (identified by flanking a bathroom) were henceforth designed as such, and located on one side of the passage; while living rooms (marked by a fireplace) and (if added as a pure luxury) dining rooms were both located on the other side of the passage.

Workers' kitchens also included clearly defined eating spaces. This was associated with the advent of internal use of gas water heating and cooking and vented sewerage technology.

The typical house in WA was double-fronted, with a central hallway, best room and main bedroom at the front, secondary bedrooms behind, and kitchen and bathroom, under a skillion roof, across the back. By the 1920s the competitive price of locally manufactured terracotta tiles, previously imported from Marseilles, resulted in tiles replacing corrugated iron as the preferred roofing material. At the same time, some municipal councils, in order to maintain prestige and property values, banned weatherboard construction. In its various stylistic forms the detached double-brick and tile house has remained the predominant housing model in WA.

The ready transfer of design ideas and the increased local manufacture of building materials meant that, throughout the twentieth century, housing in WA was closely aligned with housing trends across Australia and overseas. The successive introduction of architectural styles and building materials is evident in the expansion of newer suburbs: Federation Queen Anne in Mount Lawley and Victoria Park; Californian bungalows in Nedlands and Wembley; and streamlined Interwar Moderne houses in Menora and Dalkeith. However, with the exception of the incorporation of the new hygienic bathroom within the main body of the house, there were few changes in the floor plan of interwar houses.

The 1960s saw a marked change in housing. Open-plan living maximised the useable floor space; en-suite bathrooms and family rooms were increasingly popular; solid brick walls punctured by timber-framed windows were replaced by picture windows and floor-to-ceiling aluminium sliding glass doors; suspended timber floors gave way to concrete slabs; low-pitched metal decking

was an alternative to traditional roof tiles; and carports sheltered the now affordable motorcar.

The 1970s were marked by planning, lifestyle and environmental changes. Planning legislation encouraged the construction of townhouses in Como and Mount Lawley, and high-rise apartment buildings in South Perth and Crawley. The economic and lifestyle benefits of recycling old inner-city housing encouraged the regeneration of Northbridge, Highgate and Subiaco, matched by community support for the retention and conservation of historic precincts in Fremantle and Guildford. Championed by the National Trust, the conservation movement was rewarded with the introduction of heritage legislation by the state government in 1991.

The diversity of twenty-first-century housing has been marked by the simultaneous growth of suburban housing around regional centres at Joondalup and Mandurah, and inner-city high-density housing in East Perth, Subiaco and Fremantle. **Ian Kelly**

See also: Architecture; Building construction; Perth; Suburban development; Town planning
Further reading: I. P. Kelly, 'The development of housing in Perth (1890–1915)', Masters thesis, UWA (1992); G. London, *A short history of Perth architecture* (2002); I. Molyneux, *Looking around Perth: a guide to the architecture of Perth and surrounding towns* (1981); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979)

Humanism The Humanist Society of Western Australia Inc. was founded at a meeting at Perth Technical College, convened by one of its lecturers, James Alexander Kane, in May 1965. A constitution adopted the following month set out aims, the first of which was 'to support rational solutions to human problems on the basis of informed secularism free from supernaturalism and dogmatic creeds'. The

Society affiliated with the Australian Council of Humanist Societies and hosted its convention at Yanchep Sun City in 1977.

Public meetings and social events have been held from the beginning and the quarterly *WA Humanist News* has been circulated to members, libraries and kindred organisations at home and abroad. The Society has campaigned for reforms relating to such issues as abortion, voluntary euthanasia, interests of women and of minorities, and de-segregation of education and civil liberties generally. Humanist contingents demonstrated against the wars in Vietnam and Iraq and joined other peace marches.

The Civil Marriage Celebrant program resulted largely from Humanist lobbying, and the first such marriage in the state was conducted by the Society's celebrant on 26 February 1974, thus launching a major social reform.

In 1977 a group of Humanists established an 'intentional' community at 'The Wolery' near Denmark, WA, where they have lived out their Humanist and conservation values ever since. **Laadan Fletcher**

See also: Abortion; Communities, intentional (alternative); Euthanasia; Peace movement
Further reading: E. Conochie and I. Conochie (eds), *The Wolery at 25* (2002); L. Fletcher, *A story of forty years: humanism in Western Australia* (2005)

Hunting of game has long served Western Australians for food, fibres, oils, pleasure, culture and tradition, recreation and pest control. Native game hunted by Aboriginal peoples included fish, reptiles, birds and mammals. Following settlement, kangaroos were hunted by the colonists for domestic consumption and, since 1848, for export. The kangaroo industry dates from this period. The state's nature conservation legislation originated with laws introduced in 1892 and the early twentieth century to manage field sports

and native and introduced game. The game Acts provided for the creation of reserves which protected habitat. Under the *Game Act 1912–13 (WA)* Rottnest was reserved for native game in 1917. The formal British style of hunting, involving the equestrian pursuit of game or a lure with a pack of hounds, dates from 1890 when the York Hunt, a riding club, acquired a pack of hounds. Paper-chase clubs of the 1890s styled themselves 'hunt clubs', but did not hunt game. The West Australian Hunt Club started as the Plympton Beagles in 1899 and dissolved in 1999. Followers ranged from pony-club riders to the state governor, the social prominence of the annual hunt ball reflecting the elite socio-economic status of some participants. Until the late 1920s, the quarry was native game; thereafter it changed to the European red fox. Introduced to Victoria in the mid nineteenth century, the fox had spread to Perth from the state border, where it was first noted in 1911. Today, two packs of hounds are kept near Perth, and for some Aboriginal people hunting remains a recreational activity. **Marion Hercock**

See also: Equestrian sports; Exotic fauna; Feral animals
Further reading: W. J. De Burgh, *The Old North Road* (2002); M. Hercock, 'A history of hunting with hounds in Western Australia', *Early days*, 11, 6 (2000)

Hutt River Province is a self-styled principality in Western Australia that was founded under the leadership of Leonard George Casley. The Casley families were farmers when, in November 1969, a heavy wheat quota was imposed on their 18,500-acre property in the Shire of Northampton. When appeals to reduce the quota were unsuccessful, the Casleys lodged a 'Territorial Compensation Claim' and an appeal for independence from the state, but received no response. At the same time, a bill was being introduced in parliament that would eventually permit the state government to reclaim rural land. These culminating factors prompted the Casleys to announce they had seceded from WA on 21 April 1970. The 'province' has released its own stamps and coins and has awarded military and naval commissions to its citizens. No Australian federal or state government has ever recognised the 'province' and there is no substance, in constitutional and international law, to such an entity having any status other than as part of the Australian state of WA. **Jane Leong**

I

Imprisonment Since Europeans began colonising Western Australia in the nineteenth century, imprisonment has been a central institution in the state's history. Used to promote social stability and order, imprisonment also played a significant role in controlling the supply of labour and was an integral part of dispossession of Aboriginal people in Western Australia. Over time, the justifications for imprisonment have changed, along with the structure of the prison buildings, the practices within their walls and the size of the prison population.

The first European settlements in WA were established at a time when imprisonment in Europe and America was undergoing radical reform as a result of the changing structure of society and the campaigns of humanitarians. Imprisonment was in the process of transformation from a measure to hold debtors and offenders during court proceedings into a form of punishment in itself. By implementing a regime of work, religion and order, it was thought that criminality could be cured, while criminals were punished by depriving them of their liberty.

The colony's first prison was the Fremantle Round House, completed in 1831. By the end of the century, prisons had also been built at Albany, York, Bunbury, Busselton, Derby, Wyndham and Carnarvon. Initially it had been intended that the Swan River Colony would be reserved for free settlers; however, as the colony struggled to maintain its economic viability, transportation was implemented in order to create a reliable source of labour. In 1850 the first transported adult British convicts arrived at Fremantle; however, they

had arrived quite unexpectedly and the existing facilities were insufficient to house them. As a result, construction began on Fremantle Prison, which became operational in 1855. As the primary maximum security prison, Fremantle remained Western Australia's most important prison for well over a century.

From the outset the church had a central position both in the prison's physical structure and its operational philosophy. It was believed that solitary confinement, regular church attendance and a regime of work would lead to penitence. Gradually, religion lost its central position in the prison system and prison administrators tried to move away from monastic austerity. In 1927 the Western Australian prison system found itself at the forefront of penal administration. With the opening of a prison farm at Pardelup near Mount Barker in 1927, attention was focused on reducing the prisoners' criminal tendencies by improving education and training in a more social environment. In the late 1960s a professional non-uniformed branch, comprising of psychiatrists, social workers and psychologists, was introduced into the Prisons' Department. The tensions that arose between the uniformed officers and non-uniformed professionals reflected some of the contradictions between punishment, security and rehabilitation in the prison system.

Imprisonment played an important role in the process of colonisation as Aboriginal people were forced off their land and British law was imposed. As a result, Aboriginal people have suffered disproportionately in the prison system, both in terms of the numbers sent to prison and the conditions in which

they have been confined. In 1838 a penal establishment for Aborigines was founded on Rottnest Island. The Act that made provisions for the prison specified that it was to be an Aboriginal prison but allowed for white prisoners to be sent if necessary, and for most of the prison's life white prisoners were sent in small numbers as tradesmen of various sorts. The Royal Commission of 1899 suggested that Rottnest had none of the conditions essential for the proper treatment of Aborigines; many had died there from disease and other causes. Soon after the Commission's report, Rottnest ceased to be used as a native prison, but continued to hold white prisoners until its closure in 1932. On the mainland, conditions for Aboriginal prisoners also remained unsatisfactory, with Aboriginal prisoners subjected to corporal punishment and the wearing of chains long after these measures had been abolished for other prisoners. Imprisonment served to break connections which many Aboriginal people had with their heritage, their land and their communities, leaving them dispossessed and in a seemingly unbreakable cycle of crime and incarceration.

Female prisoners have also tended to suffer poorer conditions than other prisoners. Because women have accounted for only a small percentage of the population, their needs and concerns have generally been overlooked. Measures to reform the prison system, such as the development of Pardelup prison farm, the introduction of education officers and the development of sporting facilities, often affected only the male prisoners, while women had to wait many years for the same improvements. Female prisoners were generally incarcerated separately in the same prisons as men. The first exclusively female prison, Bandyup, was completed in 1969, helping to address some of the problems associated with confining women in a regime underpinned by masculine assumptions. However, in regional areas today, women are still incarcerated in the same prisons as men

and experience disadvantages on a number of levels.

In 1991 Fremantle Prison was closed after 136 years of continual use. During that time the prison had changed little. Prisoners' physical conditions were overcrowded, unsanitary, outdated and degrading. The cells had not been fitted with toilets and prisoners were required to go through the process of emptying their slop buckets each day. In January 1988, rioting prisoners took control of the prison and started fires. This event elucidated the inadequacy of the prison and helped to stimulate new developments and reforms.

Since the 1980s the prison system has undergone a modernising process. Prisons such as Canning Vale (opened in 1982 – later renamed Hakea in 2000 when it was merged with Campbell Remand Centre) and Casuarina (opened in 1991) have taken the place of Fremantle. These prisons are remarkably different from their Victorian predecessor. The high limestone walls and enormous wings have been replaced by razor wire and electronic monitoring systems, while the prisons' layout is designed for more social interaction and constructive employment within the prison. The concepts of unit management and community normalisation have been adapted from international examples to form the operational philosophy underpinning the modern prisons. However, overcrowding and staffing problems have meant that the impoverished conditions at Fremantle were not completely left behind. In 1998 Casuarina experienced riots bearing many similarities to those at Fremantle ten years earlier.

Prison farms such as Karnet have remained an important part of the prison system. With a diverse range of small farm pursuits, including grazing, market gardening, egg production and dairy farming, Karnet and Wooroloo supply the prison system with food and help prisoners to develop skills that will prevent re-offending. In 1999 a self-care unit resembling a small village in which prisoners cook and clean for themselves was added to

Karnet. In 2004 Boronia was opened in Bentley as a pre-release prison for women. In the prison, women live in homesteads in which they are responsible for household duties such as cooking, cleaning and budgeting. The women also have the option of undertaking employment and training in the community, preparing them for release.

In 2001 Acacia prison was opened near Wooroloo. Unlike other prisons in WA, the management of Acacia was contracted out to a private corporation. This made WA part of a growing international trend which has sought to introduce private interests and profit motives into imprisonment as a means of reducing costs and changing management techniques. As a result of concerns about human rights, the legislation allowing the government to contract out the prison also made provisions for an independent inspector who has the power to inspect any of the state's prisons without warning.

Much of the progress that has taken place in the prison system has been experienced only in the metropolitan areas, with regional prisons such as Broome, Roebourne and the Eastern Goldfields Regional Prison often far inferior to their metropolitan counterparts. These prisons have been named Aboriginal prisons, as the Aboriginal population within them is in excess of 75 per cent. WA imprisons more Aboriginal people per head of the Aboriginal population than anywhere else in Australia, and the situation is deteriorating. In 2005 the Aboriginal population accounted for only three per cent of the general population while representing over 40 per cent of the prison population. This is perhaps the most pressing issue facing the prison system, and the destructive effects are heavily felt in many Indigenous communities throughout the state. **Alexander Hay**

See also: Aboriginal prisoners; Convicts; Deaths in custody; Fremantle Prison; Prisoner art; Rottnest Island Native Prison

Further reading: M. Bosworth, *Convict Fremantle: a place of promise and punishment* (2005); M. Finnane, *Punishment in Australian society* (1997); J. E. Thomas and A. Stewart, *Imprisonment in Western Australia: evolution, theory, and practice* (1978)

Incest was made a statutory offence for the first time in Western Australia in 1892, although the age of consent, as fixed by an English law of 1861, was adopted by the colony in 1865 under the *Ordinance to consolidate and amend the Laws and Ordinances relating to Criminal Offences*. Until 1892, incest abusers could only be charged with rape or attempted rape if the victim were aged ten years or more, in which case the prosecution was required to prove the absence of consent; or with the lesser offences of carnal knowledge or attempted carnal knowledge if the victim were younger. All of these charges were difficult to substantiate. Incestuous sexual assaults rarely involved witnesses, and even if a mother knew of them, she was not considered a competent, let alone compellable, witness against her husband. Young siblings were required to prove that they understood the nature of an oath before they were able to testify. While medical examinations might have offered corroboration, they were rudimentary and often inconclusive. Doctors could only testify to penetration in cases where the victim had not previously had sexual intercourse, and, even then, they could not establish the identity of the offender. As might be expected, the conviction rate for incestuous sexual assaults was extremely low.

In 1892 the *Protection of Women and Girls Act* raised the age of consent from ten years to fourteen years, although some argued for it to be sixteen years. Under this act, incest was made an offence, carrying a maximum penalty of life imprisonment. Court records from the late nineteenth century suggest a growing recognition of and revulsion for fathers who

betrayed their moral duty to protect their children. While the 1892 legislation was narrow in scope (not extending to step or de facto relationships or incest between siblings of the same gender), the rate of conviction for incest increased markedly in the closing years of the nineteenth century.

The *Criminal Code* of 1902 brought together all the laws of the earlier colonial period dealing with criminal conduct, many of them copied from English laws and not previously formally adopted in WA. Section 22 of the code dealt with offences against morality, including the sexual abuse of children. Incest with a daughter, sister or half-sister was punishable by imprisonment with hard labour for life.

Nevertheless, familial assaults continued. In the twentieth century, as in the nineteenth, incest victims have often claimed to have been abused for years. There were few challenges to the privacy of the home or the patriarchal authority of the father. The 1970s saw greater discussion of incest and, towards the end of the twentieth century in WA, the *Acts Amendment (Sexual Offences) Act 1992* broadened the statutory definition of incest to include assaults on step- and de facto children. With these relationships included, crime statistics compiled by the Australian Institute of Criminology suggest that, for the year 2004, as many as two in five sexual assaults were perpetrated by a family member. Despite such shocking figures, parliamentarians, judges and the press generally shy away from or, worse, censor knowledge of incest. As in the nineteenth and twentieth centuries, incest is still usually portrayed as abhorrent behaviour perpetrated by aberrant individuals, rather than as a serious and pervasive social problem. **Jill Bavin-Mizzi**

See also: Marriage and divorce; Sexual assault
Further reading: J. Bavin-Mizzi, *Ravished: sexual violence in Victorian Australia* (1995); P. Hetherington (ed.), *Incest and the community: Australian perspectives* (1991)

Independent Launched on 27 April 1969, *The Independent* was Western Australia's first new newspaper for many years. Its owners, mining partners L. G. (Lang) Hancock and E. A. (Peter) Wright, saw it as an effective vehicle for giving them 'a voice in public affairs'. In his introductory statement, Wright said he wanted to raise the interest of people 'by fighting socialism and the woolly thinking that goes with it'.

Launched as a Sunday publication, with the intention it would go daily, *The Independent* never seriously challenged the market dominance of the long-established *Sunday Times.* Although there was a period during which it claimed sales of 70,000 copies, *The Independent* was unable to close a 100,000-plus circulation gap. Founding editor Maxwell Newton, who had been a very successful editor of *The Financial Review* and first editor of *The Australian*, only stayed a year before returning to Canberra.

The Independent became a daily newspaper for four weeks late in 1973, when it was published as *The Independent Sun.* The return to Sunday-only publication was blamed on lower than expected sales and low advertising volumes.

In December 1984, with losses exceeding $1 million a year, the paper was acquired by News Corporation, who ran it side by side with the *Sunday Times*. The reprieve only lasted until May 1986 when it was closed because of 'cost and circulation problems'. **Jack Beverley**

See also: *Daily News*; *Sunday Times*; *West Australian*

Indian Ocean region Stretching from Australia in the east to South Africa in the west, the Indian Ocean region has a total area of about 68.5 million square kilometres. It consists of countries from South-East Asia, South Asia, the Middle East, and South and East Africa, and is inhabited by a diverse

number of ethnic, religious and cultural communities. The Indian Ocean provides vital shipping routes connecting the region with Europe and the Americas. It is also rich in mineral resources, providing a large proportion of the world's energy requirements. Commercial and artisan fishers from many nations exploit its waters—sometimes to exhaustion—in search of fish for domestic consumption and export.

As part of the Indian Ocean region, Western Australia has experienced links with other regional states for centuries. Contacts between people in the region and those inhabiting the areas north of WA predate British arrival, but were reinforced and expanded with British settlement. In fact, some analysts argue that a strategic interest in integrating and tightening control over other areas in the Indian Ocean region underlay the British settlement in WA. During the nineteenth century, a number of links were established between regional states and WA. International shipping routes linked Britain with colonies in eastern and western Australia and those in the Indian Ocean region. British India occupied a special place in this context: ships returning from WA stopped over in British India to load supplies of spices and other commodities destined for Britain. During the second half of the century, Afghan cameleers also arrived from India and other parts of South Asia. The region was also an export market for the colony: Western Australian jarrah to British India for use as railway sleepers; sandalwood to India, Singapore, Ceylon and Java. Horses were also exported from WA to equip the British presence in and around the subcontinent. These links led to the establishment of the town of Australind (a name combining Australia and India) in 1840–41, which supported the horse trade between India and WA. The discovery of gold in the 1890s further strengthened these links as the Indian Ocean region became the major destination for gold from Perth Mint.

Following this nineteenth-century history of largely economic contact, in recent decades the region has become more of a cultural focus, with students from the state visiting neighbouring countries, particularly India. In 1978 the Indian Ocean Arts Association was formed. It held the first Indian Ocean Arts Festival in Perth in 1979, followed by a similar event in 1984. A number of major conferences on the Indian Ocean region were also held in the state during this period. Personalities played a major role in this process: Frank Callaway—the Foundation Professor of Music at The University of Western Australia—Derek and Peggy Holroyd, and Sir Charles Court, for instance, were the main supporters of the Arts Festival. Peter Reeves and Kenneth McPherson, then at The University of Western Australia, played a pioneering role in organising conferences on political and strategic developments in the region. These efforts were supported by members of the wider community and business interests who placed Western Australia's links with the region on the map.

At the turn of the 1990s, the end of the Cold War, exceptional economic growth rates in South-East Asia and India, and the influx of refugees following the Gulf War of 1990–91, prompted a shift in activities. The prospect of economic gains resulted in local companies exploring investment and trade opportunities in neighbouring countries. The federal government assisted the process, funding the establishment of the Indian Ocean Centre for Peace Studies at The University of Western Australia and Curtin University, and, as part of its Indian Ocean strategy, holding a major international meeting on the region in Perth in 1995.

Since then, the state government and businesses have established closer economic links with the region. Initially the focus remained on India, Indonesia and South Africa: from 1993–94 to 2003–04 the share of these countries in the state's total trade increased respectively from 0.5 per cent to 6.6 per cent, from 3.6 per cent to 5.2 per cent, and from

0.7 per cent to 2.2 per cent. In 2005–06, of the state's fifteen top trading partners, six were from the Indian Ocean region (India, Indonesia, Singapore, Malaysia, Thailand and South Africa). The economic policies pursued by United Arab Emirates (UAE) have also attracted attention in the state, particularly early in the new century under the state Labor government elected in 2001, and through companies establishing close links with the Gulf state. A number of Western Australians are now employed in the UAE.

By early 2000 the influx of refugees (particularly people from Afghanistan, Iran and Iraq) and the detention centres established in the state added another element to the relationship between WA and the region. Since then, the Australian government has sent troops from the Special Air Service Regiment, stationed in Perth, to Afghanistan and Iraq: yet another aspect of the relationship. The Indian Ocean region has also become a focus for the Commonwealth government's Two Oceans Policy, with half of Australia's RAN fleet based at HMAS *Stirling* on Garden Island. A real understanding of the diverse cultures of the Indian Ocean region, however, is still lacking in WA. **Samina Yasmeen**

See also: Asia, relations with; Asian immigrants; Gulf Wars; Indian Ocean Territories; Malayan Campaign; Middle Eastern immigrants; Muslims; Navy; Southern Africans
Further reading: T. Craig, *Cross currents in the Indian Ocean: the Indian Ocean Arts Association and the Indian Ocean Cultural Council 1977–1997* (1997); K. McPherson, *The Indian Ocean: a history of the people and the sea* (1993); M. N. Pearson, *The Indian Ocean* (2003)

Indian Ocean Territories The Territory of Cocos (Keeling) Islands and the Territory of Christmas Island—two separate Australian Territories and two jurisdictions—comprise Australia's Indian Ocean territories.

Christmas Island is located in the Indian Ocean approximately 2,650 kilometres north-west of Perth, and is 19 kilometres long and 14 kilometres wide. The census of 2006 showed a declining population of about 1,300 people, comprising 60 per cent Chinese, 10–15 per cent European, and 25–30 per cent Malay.

The Territory of Cocos (Keeling) Islands lies approximately 2,950 kilometres north-west of Perth, 3,700 kilometres west of Darwin and 900 kilometres south-west of Christmas Island, and consists of 27 coral islands in two atolls with a total land area of about 14 square kilometres. The population of about 618 people (2001) is largely confined to Home Island, home of the Cocos Malay people, and West Island, where more than one hundred short-term government contract workers, generally from the mainland, live. There are also a few permanent residents. The unique heritage of the present-day population is reflected in Islamic mosques, Buddhist shrines and the idiosyncratic Cocos Malay language. Neither of the island groups has an earlier indigenous population.

While the Indian Ocean territories are a Commonwealth jurisdiction, the *Territories Law Reform Act 1992* enabled the application of certain Commonwealth Acts and relevant laws of the state of Western Australia to the territories. Local government legislation based on that of WA was introduced in 1992. For the purpose of enrolling and voting in federal elections, the Cocos (Keeling) and Christmas Islands are electoral districts of the Commonwealth division of Lingiari in the Northern Territory.

Christmas Island was named on Christmas Day 1643 by Captain William Mynors of the East India Company; William Dampier and two of his crewmen from the *Cygnet* were the first recorded European arrivals. Naturalist John Murray, on the 1872–76 HMS *Challenger* expedition to the Dutch East Indies, brought the island to the attention of the British government, but it was not until 1888

that the Clunies Ross brothers established the first settlement at Flying Fish Cove to provide timber and other supplies to their coconut plantations on Cocos (Keeling) Islands. In 1891 John Murray and George Clunies Ross negotiated a 99-year lease with the British government to extract phosphate, forming the Christmas Island Phosphate Company in 1897. In the absence of local labour, Murray introduced two hundred Chinese labourers, eight European managers and five Sikh policemen the following year.

Phosphate mining continued until the Second World War. Between 1942 and 1945 the island was occupied by the Japanese, who also operated the mines, using forced island labour; many were later sent to Japanese prisoner-of-war camps in Dutch East Indies. From 1948 the New Zealand and Australian governments jointly undertook the mining, and over this period male workers and their families were recruited from Cocos Island, Malaya and Singapore, leading to the establishment of the island's first permanent population.

After the war, the island was administered from Singapore, but in 1957 it was acquired by the Australian government, a process formalised on 1 October 1958. The head of government is the Australian-appointed Administrator, with management of the island in the hands largely of the Shire Council and the Union of Christmas Island Workers.

A casino and resort, primarily serving the Asian market, were opened on Christmas Island in 1993. For a few years the complex generated huge income and attracted Western Australian workers and contractors, but closed down in 1998 as the result of the Asian economic crisis. Talk of reopening the casino in 2004 was quashed by the Australian government.

The Cocos (Keeling) Islands, discovered by Europeans in 1609, were not inhabited until 1826. Captain John Clunies Ross settled on one island in 1827, and thereafter the Clunies Ross family, 'Kings of the Cocos', occupied the islands for more than 150 years. They were declared part of the British Dominions in 1857, and in 1886 were granted in perpetuity to George Clunies Ross, grandson of John. The family established copra (coconut) plantations, using workers brought in from Asia. In 1901 a cable station was established on the islands to provide a telegraph link with Perth, but was destroyed in 1914 by the German SMS *Emden*, which was wrecked on North Keeling Island in a subsequent battle with the HMAS *Sydney.*

Responsibility for supervision of the islands passed over the years to the governments of Ceylon (1878), the Straits Settlements (1886), Singapore (1903) and to Ceylon again (1939–45). Occupied by allied troops during the Second World War, the islands became a Territory of Australia in 1955. The Australian government purchased all the Clunies Ross lands in 1978, except the family home and grounds, subsequently purchased in 1993. In 1979 a local council and a workers' cooperative were set up. The Islanders voted to integrate with Australia in a United Nations supervised *Act of Self Determination* in 1984 and a commitment was made to respect their religious beliefs, traditions and culture.

In September 2001 the Commonwealth government passed an amendment to the *Migration Act 1958*, which designated certain Australian island territories, including Cocos (Keeling) and Christmas Islands and the uninhabited Ashmore and Cartier Islands, as 'excised offshore places'. The effect of this amendment, passed at a time of heightened agitation about 'illegal arrivals', was to prevent people who arrived at these places without a visa from subsequently applying for one. An immigration detention centre was opened that month on Christmas Island.

Both island groups are rich in natural heritage. Cocos (Keeling) Islands are classic examples of coral atolls, whereas Christmas Island is rugged and steep, its 80-kilometre coastline an almost continuous sea cliff. More than 60 per cent of Christmas Island is

national park, and the annual red crab mass migration to the sea is a unique tourist attraction. **Jan Gothard**

See also: Indian Ocean region; Marine environment; Refugees; Second World War
Further reading: J. Jameson, *Christmas Island Indian Ocean* (2003)

Industrial relations are concerned with the interactions between employers, employees, and their institutions. In Western Australia these relations have been formalised through legislation that has sought to collectivise and control these relationships. Employees have been collectivised through trade unions, and employers through employer associations. Control has been attempted though industrial tribunals and through government fiat.

Prior to the 1890s, when the discovery of gold in the Coolgardie–Kalgoorlie region resulted in a large influx of population and the genesis of local manufacturing, the workforce was small and regulated on an individual basis. The *Masters and Servants Act* sought to bind employees to their employers, particularly in the agricultural and pastoral industries. The advent of manufacturing and of long-term mining led to the development of trade unions. These sought collective bargaining and agreements that applied to all their members. The new and collective nature of the employment relationship was dramatically demonstrated by the six-week Lumpers' Strike of 1899, by far the longest strike to that time. The lumpers were employed to load and unload ships. About this time ship owners had defeated unions in eastern Australia in the maritime strike. They sought to extend one of the fruits of their victories, that of 'freedom of contract', to the Port of Fremantle. Aided by public sympathy, the Lumpers' Union resisted. In the end the dispute was resolved by voluntary arbitration involving the heads of the Anglican, Catholic and Methodist churches.

The Lumpers' Strike brought home to the Forrest government the need for regulations that took account of the collective nature of unionised labour, something not possible under the *Masters and Servants Act*. In this, it was following the lead of the United Kingdom and the other Australian colonies. This, together with the need to protect the nascent economy from drawn-out disputes such as the Lumpers' Strike, led to the enactment of compulsory arbitration legislation in 1900. This legislation recognised trade unions and collective action, required employers to deal with unions (something they refused to do in the Lumpers' Strike), but also severely constrained both unions and collective action.

The arbitration system emphasised the collective nature of employment relations. The rationale was that in the event of a deadlock between employers and unions, a third and impartial party (for much of the time the 'Conciliation and Arbitration Commission') would award a binding determination. In this way, costly strikes could be avoided and fair standards of employment established. Where the employers and unions were able to reach agreement, the tribunal could certify the agreement, thus giving it the same force in law as an award. Practice, however, proved different.

Arbitration was intended as a final resort, yet within a short period there was a reversing of processes: instead of negotiations followed by arbitration, unions often sought an arbitrated award and then put pressure on individual employers to pay 'over-award' payments. This pattern continued until the 1960s, when a series of calculated strikes against the federal Commission had the effect of reducing its powers. The most important of these were the Metal Trades Work Value Case (1968), in which union action forced the Commission to reverse its arbitrated decision and grant further wage concessions, and the O'Shea Dispute (1969), which saw a trade union official arrested. This led to the

first ever ACTU union-wide strike. O'Shea was released from gaol without the reasons for his gaoling being made good. The result of these and similar incidents has been a greater reluctance on the part of tribunals to make determinations that they might not be able to enforce. In the absence of the tribunal's interest in resolving disputes through arbitration, the parties have been forced, sometimes frustrated, into reaching their own agreements.

Though the disputes referred to above were directed against the federal arbitration system, they had a similar effect on the WA tribunal system, suggesting the interlinks between the two systems. This has been particularly so since the end of the Second World War, which has seen an erosion of the WA tribunal's role compared with the federal tribunal. One index of this is award coverage. Prior to the war, about eighty per cent of the Western Australian workforce worked under conditions established by the WA tribunal. By 1985 the proportion had fallen to 58 per cent. It is evident from the inroads made by federal registered unions into WA that the proportion has fallen further but, unfortunately, the ABS no longer publishes this data.

The arbitration machinery was established to settle industrial disputes. Though it was assumed that these would take place at the enterprise level, the system soon operated at the industry and state-wide level. Unions were not interested in enterprise awards, but rather more comprehensive awards that would cover all their members. Employers also had an interest in industry-wide awards. Such awards ensured that unscrupulous employers did not gain an unfair advantage through undercutting wages. It also prevented unions from 'whip-sawing' between employers in search of better wages. However, because of the norm of 'comparative wage justice', a situation in which workers assess the worth of their wages by comparison with others, there developed the situation in which a wage increase to settle a dispute in one industry triggered disputes in related industries that

had established wage relativities. The Commission sought to overcome this problem by determining state-wide determinations. As noted below, in the last two decades there has been an increased role for enterprise-level agreements. Nevertheless, the Commission continues to determine the minimum wage payable for the state as a whole.

Perhaps the greatest distinction between arbitration theory and practice has been in the area of strikes. The logic of compulsory arbitration is that there is no need for strikes, and indeed that strikes should be outlawed. Though strikes were made legal only in 1996 (and then only under limited conditions), the reality is that arbitration has been accompanied by strikes. The graph below provides details of strikes from 1913 (when strike data were first collected by the ABS) to 2003.

The graph suggests that strikes have been a constant part of employment relations. However, the magnitude and intensity of strikes has changed over time. The three traditional measures of strikes are shown—the number of strikes (which the ABS has not published for the states after 1980), the total number of working days lost, and the working days lost per thousand employees. The most important of these is the last measure. The number of strikes suggests little by way of the intensity of the industrial action. For example, the ten strikes that occurred in 1925 resulted in almost the same number of working days lost as the 236 strikes that occurred in 1980. Furthermore, the number of working days lost is not, of itself, a particularly good measure. Other things being equal, it could be expected that if the workforce doubled, so would the number of working days lost. The measure that best reflects strike intensity between different periods and in different industries is the number of working days lost per thousand employees.

The graph suggests that in the period 1913 to 1925, though there were few strikes, these were drawn-out affairs. The Great Depression had a marked effect on strike activity. From

the 1930s until 1970 the pattern emerged of short 'demonstration' stoppages. This changed in the 1970s when both the number and intensity of disputes increased. By the mid 1980s the number of working days lost through disputes had dropped.

Part of the explanation of the post-1970 strike pattern is the development of the iron ore industry in WA. This industry was a strike-prone one that accounted for a large proportion of the number of strikes and the working days lost. For example, in 1985 the industry accounted for 77 per cent of the number of strikes. The working days lost per thousand employees in the industry was considerably higher than any other industry and the workforce as a whole. Over the last two decades there has been a significant fall in disputation in the industry.

Under the arbitration system, over 80 per cent of the workforce worked under collective awards. In 2003 only 38 per cent worked under collective awards, and 41 per cent under individual agreements. This was the result of legislation providing for a dual industrial relations system—the arbitration system and an enterprise system. The latter gives rise to individual workplace agreements. The dual system has been used by employers to reduce union control, the incidence of strikes, and to eliminate inefficient work practices. This is demonstrated by the Bealer dispute. In June 1992, workers at Hamersley's Tom Price mine went on strike when it became known that an employee by the name of Phillip Bealer had not joined a union. Bealer's religion precluded him from belonging to other organisations, and the conscientious objector provisions of the *Industrial Conciliation and Arbitration Act* catered for such situations. Unions, however, sought to ensure a closed shop, and a two-week strike ensued. The company used this unpopular strike to bring about a permanent change in industrial relations. It took legal action against union officials for loss of production, something that had not happened before. Within a short period most employees had signed individual workplace agreements. This became the pattern for other mining companies and in other industries.
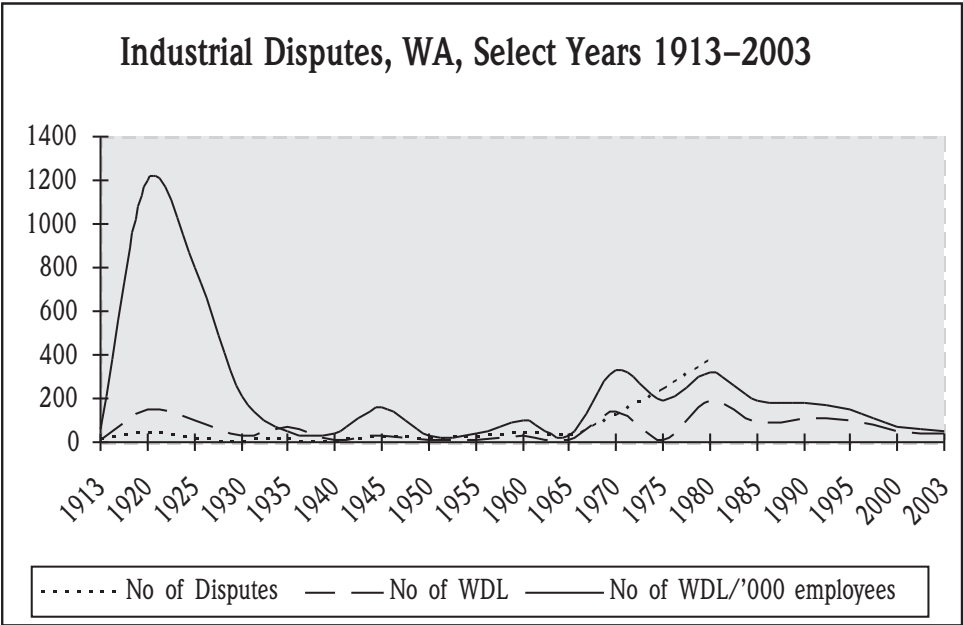
Industrial disputes, WA, select years 1913–2003. (WDL: working days lost)

The dual system developed in WA has now spread to other jurisdictions. For example, in 1993 the federal government enacted the *Industrial Relations Reform Act*, which provided for enterprise flexibility agreements. Agreements were given greater prominence in the subsequent *Workplace Relations Act* of 1996. This Act also reduced the content of awards to twenty 'allowable matters'. All other matters were the subject of workplace agreements. Further legislation, the *Workplace Relations Amendment (Work Choices) Act* of 2005, has reduced the role of both unions and the Commission in the bargaining process.

The cumulative effects of these 'reforming' Acts has been that, in 2005, only 20 per cent of all employees had their conditions of employment determined solely by awards (compared to over 80 per cent in 1990). By contrast, 31 per cent of the workforce is covered by individual agreements, and a further 50 per cent by collective agreements. The latter may include some award matters.

The increasing interest in workplace bargaining is a reflection of two important factors. The first is a belief that such bargaining will assist in preserving Australia's international competitiveness and is seen as an extension of the de-protection of the Australian economy. The second is the decreasing membership of unions and their capacity to speak on behalf of workers in general. Though some industries remain highly unionised (e.g. construction, road transport, and stevedoring), in aggregate, the proportion of the Australian workforce unionised has fallen from a peak of 60 per cent in 1951 to only 24 per cent in 2004. By this latter date the WA union density had fallen to 20 per cent. This means that the majority of workers may not be, and may not seek to be, covered by collective agreements. The new industrial relations, with its downplaying of the role of industrial tribunals, reflects this changed order. **David Plowman**

See also: Aboriginal labour; Conciliation and arbitration; Depression; Economy; Labour culture; Master and Servants Act; Pilbara strike; Trade unions; Trades and Labour Council; Work, paid

Further reading: N. F. Dufty, *Arbitration in Western Australia: the first 25 years* (1990); D. H. Plowman and G. Calkin, 'The origins of compulsory arbitration in Western Australia', *Journal of industrial relations*, 46, 1 (2004); N. Segal, 'Compulsory arbitration and the Western Australian gold-mining industry: a re-examination of the inception of compulsory arbitration in Western Australia', *International review of social history,* 47, 1 (2002); I. vanden Driesen, 'Confrontation and reconciliation on the waterfront: The Fremantle lumpers' dispute 1899', *Labour history*, 40 (1981)

Industrial Workers of the World (IWW) was a revolutionary working-class organisation that originated in Chicago, USA, in 1905. It arrived in Sydney in 1907, where it won considerable influence in working-class politics with its hostility to capitalism, parliamentary politics, the ALP, arbitration and craft unions. At its peak it had between 2,000 and 4,000 members, and its newspaper, *Direct Action*, had a circulation of 15,000. It advocated workers organising into One Big Union (OBU) and resorting to direct strike action, leading to a revolutionary general strike. Its members spoke out against the White Australia Policy and Australia's involvement in the First World War. They operated in cell groups called 'locals'.

The first Western Australian Local formed at Fremantle in 1914; and the movement was particularly strong on the goldfields. In 1916 the IWW was outlawed by the federal government under the *War Precautions Act*. Over 100 members around Australia were imprisoned on charges of arson or conspiracy, although none of the charges was proven. There were two IWW trials in Perth. At the

first, in December 1916, nine men, including the old socialist Monty Miller (then in his eighties) and ALP member Mick Sawtell, were charged, tried and found guilty of conspiracy with five named IWW members in NSW and 'other divers persons unknown'. Justice Burnside, however, was aware that, if the men were imprisoned, any trades unionists who protested against their sentence would have to be similarly dealt with. He decided to offer the defendants the alternatives of two years' imprisonment or a good behaviour bond of £50 for the same period, which they accepted. A second IWW trial occurred in the Perth Supreme Court in 1918. Four of the accused were acquitted, but T. P. Candish, a member of the Carpenters' Union and of the ALP, was convicted of conspiracy and served six months in prison. Even the acquitted men found it difficult to get work, and suffered extreme economic hardship in the ensuing years. The ALP unsuccessfully sought compensation from the state government for lost wages and expenses while the men awaited trial.

The 'last hurrah' for the IWW in WA was the OBU movement, which flourished briefly between 1919 and 1922. Ironically, the concept of one big, radical union was hijacked by the state's largest and most conservative union, the AWU. By 1924 all traces of IWW activity in the labour movement had disappeared. **Bobbie Oliver**

See also: Australian Labor Party; Communist Party; Trade unions; Workers
Further reading: V. Burgmann, *Revolutionary industrial unionism: the Industrial Workers of the World in Australia* (1995); F. Cain, *The Wobblies at war: a history of the IWW and the Great War in Australia* (1993)

Infant mortality Before the turn of the twentieth century the beginning of life for many young Western Australians was fraught with danger; mortality rates in 1900 were dominated by deaths in infancy (defined as children under twelve months of age). Poor living conditions, in part attributable to the massive increase in the colony's population during the gold rush, led to outbreaks of infectious diseases such as gastro-enteritis, pneumonia, diphtheria and tuberculosis, as well as a high incidence of weaning diarrhoea. In the period between 1870 and 1914 there were 1,495 stillbirths (often confused in the record with premature birth) and 5,693 infant deaths recorded in Perth alone.

During the first two decades of the twentieth century, improved knowledge of the spread and treatment of infectious diseases saw a drop in infant mortality. Coupled with this was mounting national alarm over the high infant mortality rate, as part of a wider panic which duly spread to WA over the declining birth rate. Mothers became the target of a campaign designed to increase the birth rate and to avoid the death of infants. Maternal ignorance in matters of hygiene and all aspects of baby care, such as feeding, was often blamed for the high infant mortality rate. The introduction of antenatal care and mothercraft—the 'science of mothering'—was designed to produce successful births and sturdy little Australians, under the guise of elevating motherhood to the most noble of all occupations.

Although the role of the mother in maintaining a healthy pregnancy and sustaining a thriving infant remained important, public health campaigns designed to notify parents of the importance of hygiene, early advances in antibiotic medicine and the treatment of infectious diseases, as well as the later developments in obstetric and neonatal care in the 1960s, resulted in the infant mortality rate dropping steadily over the course of the twentieth century, and for Australian infants the risk of dying in early childhood became extremely low.

Problems now facing the state's infants, bar infectious diseases, are still similar to those experienced one hundred years ago,

but are able to be identified and often treated more readily. Extreme prematurity, maternal complications in pregnancy and intrauterine growth restriction mean that infancy is still a risky time, particularly for the infants of Indigenous mothers and teenage mothers. Advanced technology and breakthroughs in maternal–foetal medicine have meant that the quality of development in the womb is intrinsic to successful birth outcomes: as such, the foetus is now often the primary focus in attempts to further decrease the infant mortality rate. The growing importance placed on the developing foetus, coupled with the birth of attachment theory and grief theory in the late 1960s, has led to gradual changes in the way that families who suffer the loss of a baby are treated in hospital and beyond. Social workers and psychologists have led the move in educating Western Australians on the trauma of losing a child through stillbirth or neonatal death, and the self-help group SIDSWA (formerly SANDS) grew out of the efforts of social workers at King Edward Memorial Hospital. Wider research is still to be undertaken on the history of infant mortality and its social impact on WA society. **Susannah Thompson**

See also: Aboriginal health; Baby farming; Birth; Child development; Child health; Colonial health; Infanticide; King Edward Memorial Hospital (KEMH); Ngala; Typhoid epidemics

Further reading: A. Davis, 'Infant mortality and child-saving: the campaign of women's organizations in Western Australia, 1900–1922', in P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); M. Durey, 'Infant mortality in Perth, Western Australia, 1870–1914: a preliminary analysis', *Studies in WA History*, 5 (1982); M. Nicol, *Loss of a baby: understanding maternal grief* (1986); F. Stanley, *Before the bough breaks: doing more for our children in the twenty-first century* (2003)

Infanticide is the homicide of a child under twelve months of age, most frequently by the mother, sometimes by or in collaboration with her male partner, and usually in the first twenty-four hours after birth. In Western Australia these deaths were legally known as 'concealment of birth' and were generally treated more leniently than other forms of homicide. In colonial WA, children sometimes also died young as a result of baby farming. The risk of homicide is greater during a child's first year of life than at any other time.

In his study of colonial Perth, C. T. Stannage uncovered several cases of suspected infanticide. In late May 1829, on the eve of the colony's foundation, a child was conceived on the *Parmelia* by maidservant Elizabeth Gamble and the ship's boatswain. A week after the birth the hut in which she lived caught fire and the infant was burnt to death. In the Coroner's Court the mother was accused of being more concerned by the loss of her clothes than the loss of her baby. Infanticide was suspected, but there was no proof and the death was recorded as misadventure. Nearly forty years later, in 1862, Catherine Kelly, living in the Servants Home in Perth, was charged with the wilful murder of her baby, but there was only evidence that she concealed the birth and she was found not guilty.

Well into the twentieth century, many unwanted babies were born because contraceptive practices were inadequate and abortion illegal and dangerous. The stigma of illegitimacy compounded poor circumstances, while desperation, isolation and shame characterised the experience of women who 'concealed' births. The extent of this practice is unknown, but some cases came to the attention of the criminal justice system, and, from time to time, continue to do so. Since the 1970s, with changes in attitudes to unmarried motherhood and the increased availability of contraception and abortion, a decline in the occurrence of this

form of infanticide is probable, although it is not possible to assemble reliable statistics.

If it was believed that the mother was mentally unwell as a result of giving birth or breast-feeding within the first twelve months of the child's life, she was often accused of infanticide, rather than the more serious crime of murder. Under the *Criminal Law Amendment Act* (No. 89 of 1986), WA followed other states in separating the offence of infanticide from murder as a criminal offence. Any person found guilty of infanticide was liable to seven years' imprisonment. A broader definition of the homicide of children under the age of one year includes those deaths commonly due to various forms of psychopathology, in response to stress or frustration, or as a result of domestic violence or fatal physical abuse. **Suellen Murray**

See also: Abortion; Baby farming; Birth; Child health; Contraception and family planning; Infant mortality

Further reading: R. Farrell, 'Dangerous women: constructions of female criminality in Western Australia 1915–1945', PhD thesis, Murdoch University (1997); N. Morgan, 'Criminal Law Reform 1983–1995: An Era of Unprecedented Legislative Activism', *University of Western Australia Law Review*, 25, 2 (1995); S. Murray, 'Breaking the Rules: Women and Fertility Control in Western Australia 1920–1950', MPhil thesis, UWA (1990)

Influenza epidemic The influenza epidemic of 1918–19 was commonly known as 'Spanish' flu because of the greater publicity the pandemic received in Spain, a country that was not involved in the First World War and thus had no wartime censorship. As the epidemic raged around the world in 1918, Australia prepared its defences. Quarantine was the key response and the Commonwealth government announced that it would assume responsibility for interstate traffic, both land and sea, should any state become infected.

However, once Victoria was declared infected in January 1919, the Western Australian government reacted quickly. Commonwealth Transcontinental trains were held at Parkeston, near Kalgoorlie, and tents were erected for passenger accommodation. After a storm destroyed the tents, the trains themselves were commandeered as quarantine stations. The Commonwealth angrily responded by suspending all rail traffic to WA. The state also insisted on seven days' quarantine, compared with the Commonwealth's four, so a sea voyage of four days saw passengers quarantined on Garden Island for a further three days. This issue of quarantine inflamed an already tense situation on the wharves at Fremantle in 1919. A strike and riots was the result of a labour dispute over the unloading of the cargo ship *Dimboola* within the seven days' quarantine period

In May 1919, Western Australia's first influenza case was recorded at Gwalia. In early June the disease reached Perth and the state was officially declared infected. Nobody was permitted to leave the metropolitan area without a medical certificate. Regulations on the crowding of public transport were put in place and standing in buses or trains was forbidden. Citizens were told: 'Blockade the germs…cut off their lines of communication from person to person as much as may be possible by avoiding crowds'.

Global mortality from the epidemic was conservatively estimated at 21 million. The relatively low mortality of 540 in WA (or 167 per 100,000 persons), compared to 6,000 (or 304 per 100,000) in NSW and 3,500 (or 243 per 100,000) in Victoria, can perhaps be attributed to the preventative and quarantine measures adopted. **Sue Graham-Taylor**

See also: Death; First World War; Fremantle; Poliomyelitis epidemic; Public health; Quarantine; Typhoid epidemics

Further reading: D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981)

Infrastructure and public works are under-developed themes in Western Australian history. They concern the tools, structures and knowledge required to make and operate the links of transport and communications necessary for successful modes of western commerce and culture. Without them, most aspects of life in Western Australia at the beginning of the twenty-first century would not have been possible. In WA, public works and infrastructure are virtually synonymous; almost all major infrastructure was constructed at public expense because there was neither sufficient capital to fund large-scale private infrastructure nor the population to support its profitable operation.

White settler commerce and culture depended on exploiting the resources of the land rather than finding it a source of life and meaning, as was the case with Indigenous culture. White settlers needed infrastructure to exploit natural resources found in the land or created from it, and to send it to people in other places. Consequently, many regions of the state were generally ignored until the new settler culture found resources it desired there or gained techniques and tools to extend into the areas it exploited.

The sheer size of WA and its relatively small population have created significant problems in the development of infrastructure and public works. The small population has made it difficult to fund construction of large-scale infrastructure needed to generate growth and profits and also made it difficult to train and educate sufficient people in the skills and knowledge necessary to create, operate and maintain infrastructure and public works.

Agriculture and pastoralism were the first major modes of white production in WA. Captain Stirling's initial survey of the Swan River district in 1827 promised large areas of fertile land, safe anchorage and navigable waterways, all necessary to successful settlement. Fertile land was a resource to be exploited, while an anchorage and waterways provided a ready-made maritime infrastructure necessary for commerce with the outside world. Stirling's early expectations were not fulfilled and difficulties in finding suitable agricultural land, problems in transporting produce and lack of cost-effective infrastructure became major factors hindering the growth of the new colony. This, in turn, made it difficult to finance the construction of infrastructure that might have improved the colony's viability. Two of the earliest examples of infrastructure constructed to improve efficiency were the 1837 tunnel under Arthur's Head, which provided convenient access between the coast and Fremantle, and the 1843 Swan River crossing at the causeway that linked agricultural areas on one side of the river with the town of Perth on the other.

Because maritime transport was vital to the colony's development, the earliest significant infrastructure and public works in WA provided links to waterways and the sea. For example, as agricultural areas east of Perth were opened, primitive roads were created to transport produce to markets, either in Perth and Fremantle or, again, overseas. In the 1870s the first practical rail infrastructure, tramways, linked the forests of the South-West to coastal ports to carry timber to ships that took it to markets. Sea transport became the basis for development of agriculture and pastoralism around the Western Australian coast and remained the state's most important form of transport well into the twentieth century. It was supported by infrastructure in the shape of port facilities, jetties and navigation aids including lighthouses. The development of the entire colony was also significantly constrained by its dependence on sea transport, which limited how far inland pastoralism and agriculture could penetrate before it was limited by the cost of getting produce to the coast and of infrastructure for loading it onto ships.

The arrival of convict labour in the 1850s brought more capital to the colony and more of the manpower and expertise necessary to construct and operate more infrastructure.

However, the change was limited to improving existing infrastructure, with greater effort going into roads and bridges to improve land transport. Between 1850 and 1862 convicts made over 220 bridges and made or rehabilitated 550 miles of roads. In 1871 local government authorities were created, with jurisdiction over many local services, including sanitation and roads, but the relatively small population put major infrastructure and public works beyond the reach of the colony. For this reason plans for major public works, such as a 1874 proposal for a railway linking Fremantle and Guildford via Perth, and plans for a secure anchorage for Fremantle in the 1870s and 1880s, did not proceed.

Before the 1870s infrastructure and public works were almost entirely limited to meeting the transport needs of the colony, and the only form of communication over distance was by transport. The relatively small population meant provision of other infrastructure, such as energy transmission, water supply and wastewater management, which, partly for public health reasons, were becoming priorities in the more developed countries in Europe and in North America, barely existed in WA. However, construction of a railway to connect Fremantle, Perth and Guildford commenced in 1879 and was completed in 1881, while in 1891 water from Victoria Reservoir, Perth's first water supply dam, began to be supplied to parts of Perth.

The first separate communications infrastructure provided in the colony was a privately owned telegraph line linking Perth and Fremantle, which opened in June 1869. Subsequently lines were constructed to more places, including Albany, Bunbury and York. This network was taken over by the colonial government, which extended lines into other areas of the colony. The 1877 line to Eucla linked WA into the eastern states telegraph systems and the opening of the submarine cable from Java to Broome in 1889 linked WA to the world beyond.

Telephone communication developed as an extension of the telegraph network but did not become commonly used until around the 1920s.

The discovery of immense gold reserves in the Eastern Goldfields in the early 1890s brought the population, confidence and capital necessary for the Western Australian government to undertake large-scale public works infrastructure. The railway was extended to Kalgoorlie in 1897 and as far as Leonora by 1903. The desperate need for a secure water supply in the goldfields led the government to construct a pipeline from the Darling Ranges to the goldfields, with work commencing in 1898 and the first water arriving at Kalgoorlie in January 1903.

Long-term infrastructure planning decisions were also made possible by the discovery of gold. Most significant were the construction of the Port of Fremantle, securing Perth as the commercial centre of WA, and railways built primarily in the south of the state to open up new agricultural areas. By 1904 WA had borrowed £15 million for public works: £9 million was spent on railways, £2.8 million on water supplies and sewerage and £2 million on harbours, rivers and lighthouses. Just before the First World War, railway construction consumed about 60 per cent of government investment.

Railways were expensive public works because, like telegraphs and telephone systems, they required extensive works that created a fixed system to physically link places, but they could not be adjusted rapidly to changes in state development or new resource discoveries. Three new technologies that had existed before World War I but matured during it provided the flexibility that could meet rapidly changing circumstances: wireless communication (later called radio) and road and air transport.

Radio provided communication with coastal and international shipping before the war, commencing with the establishment of a radio station at Applecross in 1913. In the

early 1920s interest in radio for public and commercial uses grew rapidly, and the first broadcasts commenced in June 1924, primarily to provide farmers in agricultural areas with market information and news. Through the rest of the 1920s and 1930s public and commercial radio broadcasting networks extended through the south of the state, with systems of landlines linking partner stations to give the entire region coverage. In remoter areas the pedal-wireless was introduced from the early 1930s to provide flexible communication links, primarily associated with the Flying Doctor Service.

Air transport was introduced to WA in 1921 with the provision of a subsidised air service between Geraldton (later Perth) and Derby in the north-west, funded by the Commonwealth government to help reduce the impact of isolation on development in remote areas. By the end of the 1930s air services had expanded to provide regular flights to the Eastern Goldfields, to the eastern states and along the north-west coast to Darwin to link with international flights to Britain. Additionally, flying doctor and charter services were provided at major centres such as Port Hedland, Derby, Wyndham and Kalgoorlie. Although air transport needed no linking infrastructure it required the aerodromes, fuel supplies, navigation aids and radio communications that had become a significant network of infrastructure extending into the remotest areas of the state by 1939.

The most important of these developments occurred in road transport, where the growth of motor transport created demand for better roads. Commonwealth government funding from 1923 led to the establishment of a Main Roads Board in 1926. It became responsible for developing and maintaining roads to meet the demand created by the flexibility of motor transport, which soon began competing with rail transport and became the most important mode of land transport in the state.

Infrastructure developments were hindered by the Depression of the 1930s and the world

war that followed, although some significant public works occurred, such as water supply systems constructed by unemployment relief labour during the Depression, and the Eyre Highway, constructed as part of the war effort. However, during the war the Western Australian government, in conjunction with the Commonwealth government, began major planning for postwar developments to create infrastructure and public works on a scale beyond anything previously undertaken in WA. These works included provision of extensive water supplies in the more settled areas of the state, development of a road system that would eventually provide a sealed road around the entire state, development of port facilities and the creation of an electricity supply system across the south-eastern corner of the state.

New technologies, vital for further development, were generally introduced by university graduates, particularly from the Engineering Department of The University of Western Australia, established in 1913. After the Second World War, men who had gained technical experience in the forces brought their expertise into the workforce, although initially their skills were not recognised by unions or employers. Many people learned how to operate and maintain new modes of infrastructure on the job and through apprenticeship schemes and formal training at Perth Technical College.

Before the war, energy in a chemical form, such as coal, oil or wood, was transported to the places where it was burnt to create energy. At the beginning of the twentieth century there were isolated power stations, like the East Perth Power Station, constructed from 1913, which generated and transmitted power in their immediate vicinity. By the 1930s Perth and most of the larger towns had electrical power supplies, but they were not interconnected. The new power scheme led to the commissioning of power stations in the South-West on the Collie coalfield and at Bunbury from the late

1940s, and the construction of power transmission lines that had extended as far north as Geraldton and as far east as the goldfields by the 1980s.

Private investment in industrial development, such as the oil refinery in the 1950s, and subsequent developments on the Kwinana strip south of Perth in the 1950s and major mining activities in the Pilbara from the 1960s, encouraged extensive infrastructure and public works to support them. These developments combined suites of already proven technologies and significant public investment in infrastructure, such as the pipeline commissioned in 1984 to transmit gas from the offshore fields of the North-West Shelf to the south of the state; roads such as the Great Northern Highway through Mount Newman that was opened in 1978; and airport improvements at Port Hedland, Broome and Derby that also occurred during this period, provided to foster mining and pastoral development. They also supported and encouraged the relatively new industry of tourism, which opened up new areas of WA by making them attractive and accessible to visitors.
Leigh Edmonds

See also: Aviation; Bridges; Communications; Convict legacy; Dams and reservoirs; Engineering profession; Goldfields water supply; Hills water supply; Irrigation; Jetties;

State Engineering Works, Fremantle, October 1952. Courtesy West Australian *(PP7342)*

Lighthouses; Ports; Power stations; Railways; Roads; Technical education; Transport
Further reading: R. G. Hartley, *Industry and infrastructure in Western Australia 1829–1940: [for] Heritage Council of Western Australia* (1995); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

Insurance Little research has been undertaken on the history of insurance in WA. It was common practice for insurance companies to appoint agents in the early years of the Swan River Colony and this remained the case for much of the nineteenth century. In 1841, the first, a London-based life insurance company, began operations in WA through its agent Samuel Moore. This was the Australian Colonial & General Life Assurance & Annuity Co., and among its directors were former governor Sir James Stirling and Charles Mangles. In 1853 the company was taken over by Liverpool & London Fire & Life Insurance.

Fire, marine and life insurance companies provided cover for businesses, which insured against fire and loss and their employees' work-related injuries, and an increasing number of individuals insured against their lives, homes, personal property, and, later, their cars against fire and theft. As the population grew, so too did the number of insurance companies active in the state. Between 1850 and 1884 eleven companies commenced activities in WA. The largest companies were Lloyds of London, represented by George Shenton; National Mutual Life Association, established in WA in 1869; the Colonial Mutual Life Assurance Society in 1873; and the Australian Mutual Provident Society (AMP) in 1884. Only three were local: the short-lived West Australian Fire Insurance Co. (1870–71), West Australian Co. (1884), founded by Septimus Burt and others, and the West Australian Marine Insurance Co. of WA (1889), founded by William Dalgety Moore.

The need for diversified markets during the catastrophic depression of the 1880s and 1890s in the eastern colonies, and increasing economic prosperity in WA in the lead-up to self-government and with the discovery of gold, encouraged both British and Australian insurance companies to invest in central Perth land and construct office buildings. Such was the case for the AMP, which erected a new building on St Georges Terrace in 1887, followed later by a larger, more prominent, Donnybrook stone office block on the corner of St Georges Terrace and William Street in 1915. The AMP was the largest insurance company in WA both before and after the gold rushes, and the value of its 16,800 policies in WA in 1911 had doubled since 1891.

Throughout the history of the industry, insurance companies have been one of the main investors in the WA economy. They dominated massive redevelopment in the city of Perth following the mining boom of the late 1960s. Although punctuated by the recession induced by the 1973 oil crisis, in the long boom of the 1980s St Georges Terrace was transformed. This resulted in the demolition of some of the insurance firms' own historic buildings. These included the Temperance and General Insurance Co. (T&G) on the south-west corner of Barrack Street and St Georges Terrace, which demolished its magnificent 1896 premises, rebuilding in 1957; the AMP, which demolished its landmark 1915 building in 1972 in order to build a new high-rise tower; the Victoria Insurance (later New Zealand Insurance), which demolished its 1927 building and rebuilt in the 1980s; and Colonial Mutual Life, which demolished Perth's first skyscraper, the 1936 ten-storey CML building, in 1980. Only a few, like the Royal Insurance building of 1923 and the comparatively new Mutual Life Insurance building of 1957, escaped this fate.
Kristy Bizzaca

See also: Banking; Gold; Health insurance; Heritage

Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979); E. S. Whiteley, 'The birth and progress of insurance', *Early days*, III (1947)

International exhibitions The second half of the nineteenth century was characterised by large exhibitions of art and industry. The fledgling colony of Western Australia, wishing to promote itself, made its first major foray to the 1862 International Exhibition in London, where furniture, fur rugs, pelican-down mats, emu skins and pearls were shown. By1886 at the Colonial and Indian Exhibition in London, furniture, possum-fur carriage-rugs and calfskin mats were joined by Edwin Streeter's pearling display and 'trophies' of primary produce and minerals under Louis Beurteaux's silk banners. Augusta Knight of Albany won a bronze medal for her paintings.

WA was a focus of world interest in the late 1890s when the gold rushes were at their height. Its pavilion at the Paris Universal Exhibition in 1900 won a gold medal for architect John Grainger. Artistic pursuits, minerals and produce were on display. Paintings of Western Australia's unique flora were a feature. Furniture and carving by William Howitt won him a bronze medal, while the WA Commission received a silver medal, as did Robertson & Moffat for their inlaid dinner wagon and Locke Bros for a sideboard. H. M. Smyrk won a bronze medal for a stained-glass window executed by Barnett Bros. These exhibits had a further showing at the 1901 Glasgow Exhibition. There were fewer entries for St Louis in 1904. The 1908 Franco-British Exhibition was more successful, with students from Perth Technical School winning a Gold Medal and a Diploma of Honour, and Howitt the Grand Prize for Ecclesiastical and Art Furniture. Howitt also exhibited at the Panamanian Exhibition in 1914 and at Roubaix in 1911, where he was awarded a Gold Medal.

The British Empire Exhibition, at Wembley in 1924, was the last at which WA made a strong showing. Exhibitors included painter Daisy Rossi, metalsmith Gordon Holdsworth and photographer A. Knapp. In a delicate political situation, medals were only awarded for participating. The era of competitive exhibitions was drawing to a close. For the Paris Exposition des Arts Décoratifs et Industriels Moderne in 1925, the exhibits were required to be innovative. USA felt unable to meet the criteria and did not enter, and nor did WA.

Local industry has continued to exhibit at major international exhibitions, but there has been no research into this important aspect of Western Australia's export trade. **Dorothy Erickson**

See also: Coolgardie Exhibition

Further reading: P. Greenhalgh, *Ephemeral vistas: the expositions universelles, great exhibitions and world's fairs, 1851–1939* (1988)

International Women's Day had its beginnings in the struggles of socialist working-class women in Europe and the United States demanding political and economic rights in the first decade of the twentieth century. Peace, human rights and social, economic and political issues have continued to be a focus of the day.

The first International Women's Day was held on 19 March 1911, when more than a million European women and men rallied for the right of women to vote, work and hold public office. The inspiration came from a New York march held in 1908 against poor working conditions and child labour. In 1910 an international conference of socialist women voted to hold a yearly International Women's Day. The first International Women's Day in Australia was held on 25 March 1928. The United Nations officially recognised International Women's Day in 1975, and declared that it be celebrated on 8 March.

International Women's Day colours of white, purple and green were first worn by marchers in the 1908 demonstration in New York organised by the newly formed Women's Social and Political Union (WSPU). Symbolically, white represented purity, purple stood for dignity and self-respect, and green for hope and new life.

The first recorded celebration of International Women's Day in Perth occurred in 1936 and followed the revolutionary trends of this now worldwide event. Themes were the threats posed by fascism and the possibility of war. The 1938 gathering attracted representatives from a wide range of traditional, feminist, union and political groups, and this broad participation has been a consistent feature of International Women's Day celebrations since its inception. Themes of war, peace and protest occupied events of the next three decades, with street marches and rallies in the 1970s on issues of Aboriginal and Torres Strait Islander rights and social, economic and sexual equality for all women.

Perth's first woman doctor, Dr Roberta Jull, was an early activist in International Women's Day events, along with noted Perth author Katharine Susannah Prichard. Irene Greenwood, who addressed the first Perth gathering in 1936, also addressed the 1975 rally that marked the commencement of the United Nations' Decade of Women (1976–85) in Perth. Decade for Women meetings in Perth generally took the form of public gatherings and rallies with guest speakers. Seven women were arrested at an illegal march in 1978. By the 1980s most events celebrated women's art, music, theatre, craft and fellowship.

Organisational roles have been filled by many women's groups through the years, including the WA Women's Advisory Council and the Women's Electoral Lobby. Since 1984, various WA governments' women's offices have also been involved. Access to funding and resources has lent legitimacy to an event

which had its genesis in the struggle for basic rights for women around the world. **Office for Women's Policy**

See also: Feminist movements; Gender; Peace movement; Women and political representation; Women's Electoral Lobby

Further reading: W. Brady, 'International Women's Day', in L. Layman and T. Stannage (eds), *Celebrations in Western Australian history: Studies in WA History*, 10 (1989); J. Stevens, *A history of International Women's Day in words and images* (1985)

Internment Internees were civilians who were confined for varying lengths of time during each world war because they were regarded as potential enemies of the state as a result of their politics or their nationality. During these conflicts Australia kept several thousand residents who had the misfortune to be born in countries then described as 'enemy' in camps run by the Army. But internment policies were not always easy to understand, for Australian-born citizens were also at risk, especially if they had married an 'enemy alien'.

During the First World War, Germans and citizens of the Austro-Hungarian Empire were at risk of internment in Western Australia, although some 552 lived in the community 'on parole', under police supervision, while others were permitted to travel to the United States (a non-combatant nation until 1917). However, WA distinguished itself in both conflicts by pursuing internment policies rigorously. From an estimated 3,190 male enemy subjects, of whom 1,280 had been naturalised, by November 1915 over 1,100 were living in considerable discomfort on Rottnest Island, where many had survived a wet winter in floorless tents. There was no sewerage system, food was poor and conditions were primitive. In December the camp was closed and the inmates were sent to camps in New South Wales. After

the war, most were deported. About 700 of these internees came from the goldfields and wood lines, where the loss of their labour caused difficulties in maintaining production. They came from what was later to be called Yugoslavia and then Croatia, but their ethnicity was confused, since this part of the Balkans had been ruled by Venice, Turkey, and Austria-Hungary, and Italy was briefly to seize some of it after the war.

During the Second World War, Italians, Japanese and Germans were subjected to internment policies. Communists were also carefully watched until Russia joined the allies. Broome was cleared of all Japanese pearl divers and their families. Geraldton lost many of its tomato farmers and Fremantle its fishermen. Australia police and security forces were monolingual and generally poorly educated about other cultures. They had to be instructed to detect the difference between Japanese and Chinese faces, and their language skills were so lamentable that they mistranslated names of organisations. As a consequence they managed to confine German Jews, pro-Nazis, fascists, anarchists and even a few Australian-born Italian speakers together.

During each conflict sensitive areas in the state were thought to require protection from possible subversive activity: the goldfields during the First, and Fremantle during the Second World War, when it became an important submarine base as well as the port of embarkation for military personnel. Italian speakers in such a place were immediately suspect, especially those whose occupation took them to sea. Many fishermen were detained soon after Mussolini declared war on 10 June 1940. Of the 1,196 interned in WA, 85 per cent were Italian nationals. They were initially sent to Fremantle Prison before being ferried across to Rottnest Island, which outgrew its usefulness because of overcrowding. Italians were transferred to a new and larger camp at Harvey. Japanese, kept separate from the Italians, were sent to Woodman Point, which held

up to 300 internees. In early 1942, a crucial period on the home front when an invasion was feared, both groups were transported, via Parkeston outside Kalgoorlie, to Loveday Camp in South Australia.

Internment directly affected men rather than women, but occasionally those women believed to have supported fascist social organisations during the 1930s were also briefly imprisoned, leaving their children to be cared for by friends. Teenage boys were picked up in both conflicts. Throughout Australia 7,500 people were interned during the Second World War, compared with a total of 6,890 during the First. **Michal Bosworth**

See also: First World War; Germans; Italians; Japan, relations with: Prisoners of war; Rottnest Island; Second World War; South-eastern Europeans; Wartime propaganda
Further reading: R. J. B. Bosworth and M. Bosworth, *Fremantle's Italy* (1993); R. Bosworth and R. Ugolini (eds), *War, internment and mass migration: the Italo-Australian experience, 1940–1990* (1992); G. Fischer, *Enemy aliens: internment and the homefront experience in Australia, 1914–1920* (1989); J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

Irish have been a presence in Western Australia from earliest colonial times. Whether Irish-born, UK-born of Irish background, or Australian-born of Irish background, the Irish in WA were never a homogeneous group. They were defined by religion, class, and whether they were from Northern Ireland (after 1921) or from Ireland (the Republic). The turbulent old-world relationship of England and Ireland influenced the Irish experience in WA until well into the twentieth century, and consequently the Irish were sometimes regarded with suspicion and fear. Despite occasional variations, from colonial until recent times the majority of Irish in WA (75 per cent) have been Catholic. Anti-Catholic prejudice was

common in colonial times and lingered until well into the mid twentieth century. As all Irish were assumed to be Catholic, prejudice against Catholics reinforced prejudice against the Irish.

The colonial Irish were mainly from rural backgrounds. However, there were Ireland-born among the colonial elite, such as landowner and Advocate-General George Fletcher Moore, military commander Frederick Irwin, and Governors Fitzgerald and Kennedy. In 1859 the Ireland-born in WA comprised 16 per cent of the population, numbering 2,406 in a non-Aboriginal population of 14,837. Nearly one thousand Ireland-born male convicts were among the 9,721 men transported to WA between 1850 and 1868. In the same period some poor, predominantly Catholic women arrived, largely as government-assisted immigrants destined for domestic service and marriage. Gold discovery in the 1890s boosted the Ireland-born population from 3,499 in 1891 to 9,862 in 1901, a 35 per cent increase in the number of Ireland-born, while the Western Australian population as a whole increased by 27 per cent. The late introduction of the convict labour force and the slow growth of an industrialised working class meant that there was no geographically concentrated Irish-Catholic proletariat so the Irish in WA were more part of the mainstream than was the case in the eastern colonies and states.

Census data on birthplace indicate that, until 1921, among the overseas-born, only those born in England outnumbered those born in Ireland. After 1901, Irish immigration abruptly slowed, causing the number of Ireland-born in WA to halve between 1901 (9,862) and 1947 (4,950). The decline was even more pronounced for Australia as a whole, with figures dropping from 184,470 in 1901 to 44,813 in 1947. By 1996, total Australian numbers of Ireland-born had climbed back to 74,498, still considerably less than the 1901 figure. In WA, however, there were 12,838 Ireland-born in 1996,

which was higher than the 1901 figure of 9,862. Although the numbers were small, in the second half of the twentieth century WA had a higher proportion of Ireland-born in its population than any other part of Australia: 0.7 to 0.8 per cent of the population from 1954 to 1996. For Australia as a whole, the percentage of Ireland-born for the same period was less than 0.5 per cent. The reasons for the apparent preference of the Irish for WA are not clear. The number of Irish-born in WA continues to decline—at the 2006 census 9,012 had been born in Ireland, although 155,227 claimed Irish ancestry.

The occupational profile of the Irish-born began to change after the Second World War. Postwar Irish migrants were initially from rural backgrounds, with numbers from the urban working class increasing by the 1970s, whereas the immigrants of the 1980s onwards were increasingly professional and skilled workers.

The Irish are credited with adding liveliness to WA society. Prior to 1900, St Patrick's Day was mainly a secular event for all to enjoy, but was appropriated around this time by the Catholic Church. The rallies and masses stopped in WA in 1965 after the death of Archbishop Mannix in Melbourne, and because of the impact of the increasing numbers of non-Irish Catholics among postwar migrants. Secular-style St Patrick's Day marches were re-started in 1991 and held in Fremantle. Colonial then contemporary Irish pubs, Irish music, theatre and dance form part of Perth's entertainment scene.

The vigour of postwar Irish immigrant culture and activity is apparent in the Irish Club (1950), Irish Theatre Players, Gaelic Athletic Association (GAA), the traditional musicians' organisation *Comhaltas Ceoltoiri Eireann*, Australian-Irish Heritage Association, Irish-Australian Business Association, Tara Club and Claddagh. The Celtic Club (founded 1902) still thrives. The Protestant Loyal Orange Lodge held marches from 1889–1930, and

other Irish clubs, once active, have disbanded leaving little trace.

Until the 1940s, most Catholic priests in the state came from Dublin. Irish teaching and nursing orders such as the Mercy, St John of God and Loreto Sisters and the Christian Brothers provided services all over the state. They also left a legacy of fine architecture.

There are many prominent Western Australian Irish. Among the best known are John Boyle O'Reilly, the Fenian poet who escaped while a convict in WA and who subsequently organised the *Catalpa* to return and rescue other Fenian prisoners (1876). Paddy Hannan is credited with discovering gold at Mount Charlotte in 1893. Charles Yelverton O'Connor is the Irish engineer best remembered for creating a deep-water harbour at Fremantle (1897) and for the design and construction of the water pipeline to the goldfields (1902). John Winthrop Hackett, in the early part of the twentieth century, was the owner of *The West Australian*, the first Chancellor of The University of Western Australia, and a major benefactor of that institution. **Jean Chetkovich**

See also: Catholic church; Education, Catholic; English immigrants; Fenians; Gold; Goldfields water supply; Migrant ethnic associations; Migration; Religious orders, Catholic men; Religious orders, Catholic women
Further reading: D. Cusack, *With an olive branch and a shillelagh: the life and times of Senator Patrick Lynch* (2004); A. Partlon, *Harps in the mulga: a bibliographical guide to the Irish in Western Australia 1829–2003* (2003); B. Reece (ed.), *The Irish in Western Australia: Studies in WA history*, 20 (2000)

Iron ore from Western Australia is one of Australia's biggest exports and contributes to the vigorous growth of steel industries in a number of countries, particularly Japan and China. The state produces about a third of the ore traded internationally and a sixth of

all ore mined, with Brazil dominating the international market. Yet for much of the last century its export was banned by Commonwealth governments, which believed the country had only limited reserves.

Iron was first detected by a surveyor, Francis Thomas Gregory, exploring the Hamersley Ranges in 1861, who noted that there was iron ore in the region. A government geologist, H. P. Woodward, reported in 1889 of the Pilbara's immense iron ore lodes that there was 'enough to supply the whole world'. However, he added that it was unlikely that it would ever be exploited because of its remoteness, which remained a reasonable assumption for the next seventy years.

The first deposits to attract serious attention, in the late 1930s, were on islands off the north-west coast, Cockatoo and Koolan. The Commonwealth government of the time believed Australia had only limited reserves and, influenced by the increasing interest of the Japanese steel industry in the potential of the region's deposits, it imposed an embargo on iron ore exports. The embargo took effect from 1 July 1938 and cost Nippon Mining Company, which had already contracted to buy one million tons of ore a year from Koolan Island, five hundred thousand pounds, arousing great resentment among the Japanese. The sum would be the equivalent of many millions of dollars today. Nippon Mining Company's Chief Geologist wrote to the Australian government suggesting that if a proper survey were done, 'especially in Western Australia', the existence of an enormous amount of iron ore would be established, sufficient to guarantee supplies for hundreds of years. His prophetic statement was ignored, but it is difficult to overlook the paradox that it was the Japanese steel industry's interest in the Pilbara which led to the establishment of the vast industry thirty years later.

High-grade ore on Cockatoo Island was mined from 1951, but only to supply Australian steel mills. By the time the embargo of exports was lifted in 1960, a number of geologists and entrepreneurs were already delineating the region's deposits, recognising a quickening demand for raw materials in burgeoning economies like Japan, and correctly anticipating that exports would soon be permitted. Iron ore on Koolan Island, also in Yampi Sound, was mined from 1965. This production, however, was dwarfed by what was to come on the mainland. Cockatoo was closed in 1986 and Koolan eight years later. Some mining has been resumed in Yampi Sound.

The enthusiasm of Langley George Hancock was a factor in attracting the interest of some major companies. The owner of two depressed cattle stations in the Pilbara—Mulga Downs and Hamersley—Hancock was an enthusiastic amateur geologist, and a skilful pilot. His flights over thousands of kilometres of the Pilbara convinced him of the great mineral wealth in the region. There is the now legendary tale of how, in November 1952, forced low by a thunderstorm, Hancock flew close to the source of what was then the Turner River, and noticed the rain streaming down sheer 60-metre walls that appeared to be iron. His later explorations suggested that this iron stretched for more than a hundred kilometres and, though low grade, it was still better than most of the ore being fed into the world's blast furnaces.

Hancock and partner Peter Wright negotiated an agreement, completed in 1959 with what is today Rio Tinto Ltd, that gave them a 2.5 per cent royalty on all the minerals to be produced in the west and east Pilbara. However, Hancock did not find the deposits that were the basis of the early mines (though his discoveries did play a later role). The immense Mount Tom Price structure, still the core of Rio Tinto's Pilbara operations, was outside the temporary reserves held jointly by the company and Hancock and Wright.

After years of effort, sometimes attended by considerable frustration, four iron ore projects

were commissioned over the seven-year period from 1965 to 1972: the Goldsworthy project; another launched by the Hamersley Iron group, which included Rio Tinto; a third by the Mount Newman Mining consortium, including BHP; and, finally, the Robe River operation. Production grew rapidly and WA became a force in the world iron ore trade and a crucial partner to the Japanese steel industry.

There have been many challenges since, with endemic industrial unrest in the early decades threatening the future of several projects, and increasing competition and regulation. In the early decades, strikes reduced production by a fifth at some projects, at a time when new producers, especially Brazil, were entering the global market. A wide range of regulatory issues, such as the environment and the claims of Indigenous communities, also made the launching of mines more difficult.

In the 1990s a process of consolidation began that reduced the number of operating companies from four to two, although there are now many more mines. A process for the upgrading of iron ore, established by BHP Iron Ore in 1999, proved to be disappointing in its performance. The hot briquetted iron (hbi) plant near Port Hedland was closed in 2005.

Increasing productivity has matched declining prices for iron ore, with the industry still highly profitable despite prices that are half what they were thirty years ago in inflation-adjusted terms. By 2002 the state's mines, mostly situated in the Pilbara region, produced 171.6 million tonnes of iron ore, worth more than $5 billion, with expansion planned that will increase this significantly. It is only the scale of modern mining and transportation that has made this possible, whereas half a century ago it was assumed that it was uneconomic to move ore more than a few hundred miles by rail or in ships of more than 50,000 tonnes displacement.

The 1960s iron ore projects of the Pilbara included railways and ports that could service ore carriers which have steadily increased in size. The Pilbara coast is home to some of the world's biggest ports handling bulk materials, with Rio Tinto operating two, at Port Hedland and Cape Lambert, and BHP exporting its ore from Dampier. Vessels of 200,000 tonnes are common today, and trains more than 3 kilometres long carry up to 37,000 tonnes of ore. One train, 7.4 kilometres long and with a gross weight of 100,000 tonnes, was sent along one line as a research exercise in 2001.

By 2007 considerable expansion had taken place following rapid increases in sales to China in particular, but the goal sought by governments for forty years, the launching of an Australian steel industry based on some of the world's richest iron ore deposits, remains elusive.

Smaller iron ore mines operate at Mount Gibson at Tallering Peak, in the state's Mid West, and around Koolyanobbing, east of Perth, with a number of new projects planned. **John McIlwraith**

See also: Exploration, land; Geology; Mining and mineral resources; Pilbara; Port Hedland; Railways

Further reading: J. McIlwraith, *The first 500 million: the Mt Newman story* (1988); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993); A. Trengove, *Adventure in iron: Hamersley's first decade* (1976)

Irrigation is used in agriculture to provide and maintain soil moisture content at optimum levels to maximise the target crop yields. Irrigation in Western Australia was first recorded in 1908 at a state dairy farm at Brunswick Junction. This successful pilot scheme was the catalyst for the Harvey, Waroona and Collie irrigation schemes that commenced in 1916 under the *Rights in Water and Irrigation Act*

1914. Summer irrigation of the fertile alluvial flats by earthen channels from dams in the Darling Scarp provided stabilised water supplies and increased farm production. Farmers had preferred a piped scheme to minimise evaporation losses but had to wait seventy years.

After 1946, irrigation of large areas of fertile alluvial plains on the Ord and Fitzroy rivers (identified by Alexander Forrest in 1879 and confirmed by John Forrest in 1883) was investigated. In 1959 the Kimberley Research Station began evaluating experimental crops. The Ord Irrigation Area (1963 onwards), with the magnificent Lake Argyle Dam (1972), now produces a variety of commercial crops and tropical fruits.

In 1959 pumping from private groundwater bores along the Gascoyne River, previously uncontrolled, required a licence under legislation to prevent over-pumping of the aquifer supplying the irrigation area. Similar licensing provisions control the groundwater use by private market garden irrigators and vineyards on the Swan Coastal Plain.

Until 1985 practically all major irrigation schemes in WA were constructed and operated by the state government. Since 1995 ownership and management of the irrigation distribution systems at Harvey, Collie, Waroona, Preston Valley, Carnarvon and the Ord have been progressively transferred to the private farming cooperatives in the area. The bulk water is supplied by the state.

Nearly all the Australian-grown meat, dairy products, vegetables, fruit and wine produced for our tables come from irrigated farming areas. **D. M. Vodanovic**

See also: Dairying; Gascoyne; Harvey; Horticulture; Infrastructure and public works; Ord River scheme; Rivers of the South-West; Waroona; Water management; Wine
Further reading: J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

Islands off the Western Australian landmass are coastal lands of any size that have been isolated by rising seas in the last 12,000 to 6,000 years. There are 3,638 named islands off the coast, ranging from rocks such as the Second Sister in the Houtman Abrolhos, to the largest island, Dirk Hartog, near Shark Bay—80 kilometres in length and 617 square kilometres. The largest groupings of islands, with the greatest spatial extent, are the four archipelagos: Bonaparte and Buccaneer in the Kimberley, Dampier in the Pilbara, and the Recherche off the Esperance coast. Other significant groups of islands include the Shoalwater group off the metropolitan coast, the Abrolhos Islands off Geraldton, and the Montebello Islands off the Pilbara coast.

Following sea level rises, macropod marsupial extinctions occurred as a result of reduced habitat diversity and size. Thus, only the largest islands—Dirk Hartog, Bernier (44 square kilometres) and Dorre (18 square kilometres) at Shark Bay, and Barrow (18 square kilometres) in the Pilbara—retained at least three species of macropod. The smaller islands (Rottnest; Garden; West and East Wallabi in the Abrolhos; and Middle, Bald, Salisbury, North Twin Peaks, Wilson and Combe on the south coast) kept only one macropod species.

Prior to European exploration in Australia, even the largest islands were left uninhabited owing to a lack of permanent fresh water and other resources. However, in the North-West, coastal islands were visited by the Indigenous Yamatji and Kimberley people. In contrast, the islands south of Shark Bay, off the south-western and southern coasts of WA, were not visited by the Nyoongar, who did not possess watercraft.

The islands were often the first lands visited by South-East Asians and Europeans. Shipwreck was a constant hazard for vessels bound for the East Indies, and the 1629 wreck of the *Batavia* in the Abrolhos resulted in the first documented habitation of an island

by Europeans. Names such as Tryal Rocks and Rottnest reflect that traffic. The explorations (1688, 1699) of Englishman William Dampier are recognised in the Dampier Archipelago. French explorations are recalled in names such as Rosily, off the Pilbara coast from Onslow (Saint Allouarn, 1772); Mondrain off the Esperance coast (D'Entrecasteaux, 1792); and Montesquieu, to the west of Admiralty Gulf in the Kimberley (Freycinet and Baudin, 1801–03). Nineteenth-century British exploration greatly increased knowledge of the offshore islands.

Since European discovery and settlement the islands have served a variety of resource uses: sealing, quarrying, mining and guano extraction; livestock grazing; as harbours, prisons, quarantine stations and recreational resorts; bases for fishing, sealing and whaling; for defence, scientific research and experimentation; and for tourism and nature conservation. For example, Rottnest was used as a prison for Aborigines (1838–1931), a boys' reformatory (1881–1901), and as an internment and prisoner-of-war camp during the First World War. Bernier and Dorre Islands were used as lock hospitals for Aboriginal people suffering from venereal disease (1908–18). Entire islands, such as Dirk Hartog and Faure, were pastoral leases during the twentieth century and are still used for grazing. During 1951 and 1956 the British and Australian governments used the Montebello group of islands, islets, rocks, reefs and shoals for testing atomic bombs. Babbage Island, near Carnarvon, was used as a treatment plant by the Australian Whaling Commission (1951–63). In the Pilbara, hematite has been produced at Cockatoo Island since 1951, and iron ore was first exported from Koolan Island in 1965. On Barrow Island, the state's most significant island refuge for endangered marsupials, which had been gazetted as an A Class Reserve in 1910 to protect flora and fauna, production and shipping of crude oil started in 1967. Since the mid twentieth century many islands have been gazetted

as conservation reserves, as a result of the interest of earth and life scientists. **Marion Hercock**

See also: British maritime exploration; Dutch maritime exploration; French maritime exploration; Garden Island; Guano; Indian Ocean Territories; Iron ore; Nuclear testing; Oil and gas; Rottnest Island; Sealing; Shipwrecks; Whaling

Further reading: I. Abbott, 'Aboriginal man as an exterminator of wallaby and kangaroo populations on islands round Australia', *Oecologia*, 44, 3 (1979); M. A. Jebb, 'The lock hospitals experiment: Europeans, Aborigines and venereal disease', in B. Reece and T. Stannage (eds), *European-Aboriginal relations in Western Australia: Studies in Western Australian History*, 8 (1984); L. R. Marchant, *France Australe* (1998)

Isolation From the beginning of European settlement, Western Australians have made much of their isolation. Perth, many proudly proclaim, is the most isolated city in the world. While some boast that isolation has bred a pioneering spirit, others point to insularity and a suspicion of outsiders. Isolation has engendered a sense of distinctiveness and a concomitant resentment: against London in the nineteenth century; Melbourne, the national capital from 1901 to 1927; Sydney, the founding and largest city; and Canberra, the national capital from 1927. People from the east have been unflatteringly called 't'othersiders' and 'wise men from the east', while the eastern seaboard is generically referred to as the 'eastern states' or, more simply, 'the east'. Isolation has sometimes been manifest in a wish to secede from the Commonwealth while, in both politics and sport, it has caused a fierce Western Australian patriotism. For many Western Australians, isolation is a good thing; for others it is reason to leave. Being Western Australian has meant being an outsider, on the periphery of both

the real and the imagined nation. Western Australians truly felt that they lived in the Cinderella state.

Isolation has many meanings beyond the geographical and spatial. Yet it is real enough. Between WA and the east is a north–south line of largely impassable deserts. In the nineteenth century, sailing from Perth to Melbourne took a number of days. Ending distance's tyranny over WA began when the intercolonial telegraph first connected Perth with Adelaide on 9 December 1877, five years after the other Australian colonies were connected to Europe. News of the rest of the world could now arrive relatively quickly, though not yet instantaneously; in 1889 it still took 79 minutes for a telegraph to be transmitted from London. In 1917 Kalgoorlie was linked to Adelaide by rail. The Eyre Highway, linking Perth to Adelaide, was begun in the 1940s and finally sealed in 1976. A sealed road from Darwin to Perth was completed in 1986. WA was incorporated into national radio and television networks in stages: radio from the beginning in 1934, then television firstly in the mid 1970s and then in the mid 1980s with new satellite technology But most radio and, importantly, television news remains largely local, autonomous and insular—perhaps like WA as a whole.

Travelling east one sees the desert; travelling west and north one strikes the ocean. Vast oceans separate the state from Africa and from Europe. Once it took one hundred days to send a letter from England to Fremantle, but after mail steamers replaced sailing ships in the late 1850s it took only five weeks, even less once the Suez Canal was opened in 1869. It was the telephone and aeroplane, however, which finally broke the back of this isolation—WA and South Australia were linked by telephone line in 1930, twenty-three years after Melbourne and Sydney; and Perth was linked to the east by regular commercial flights in 1936.

The distances between WA and its northern Asian neighbours, on the other hand, have been more imagined than real. The North and the North-West have long had close relations with South-East Asia. That the south of the state has not, has less to do with distance and more to do with white Western Australians' sense of their own racial exclusiveness.

Isolation does not mean so much in today's globalised world, when it takes just four hours to fly to Melbourne, fourteen to London and thirteen to Frankfurt, and no time at all to surf the web to all corners of the globe. Historians have disagreed as to when—and whether—the sense of isolation and the corresponding sense of Western Australian difference ended. Factors that have impacted on this sense of isolation, in one way or another, include greater integration in the nation from the 1920s; internal migration and family connections after the gold rushes of the 1890s; growing federal power over the states, and the development of national political, social and cultural organisations and institutions; along with the slow development of a sense of being Australian brought about by a common post-Federation history. Nevertheless, what remains today is a popular sense that isolation, for better or for worse, has shaped and continues to shape Western Australian character. **Charlie Fox**

See also: Cinderella state
Further reading: C. Fox, 'The view from the West', in M. Lyons and P. Russell (eds), *Australia's history: themes and debates* (2005)

Italians While people born in Italy and of Italian ancestry are the largest non-English speaking group in the state today (5 per cent of the total Western Australian population as against 4 per cent nationwide), Italians were less numerous than the Germans or the Chinese in colonial WA. It was not until the gold discoveries of the late 1880s that an Italian migratory movement to the colony

began. By 1911 the Italy-born population in WA, comprising mainly men, had grown to 2,361, which was 35 per cent of Italy-born in Australia and the highest proportion ever recorded in the state. Mining continued to be the main industry attracting Italians (mainly from Lombardy) until 1921 (peaking at 70 per cent in 1911), and was concentrated in Kalgoorlie, Boulder and Wiluna. Some of the earliest Italian migrants also worked in timber cutting and farming in the South-West, while fishermen from Sicily and Apulia established the state's fishing industry.

Significant numbers of Italian immigrants began arriving after the First World War, pushed out of Italy by severe economic difficulties and political disquiet and propelled towards Australia by US immigration restrictions. In the 1920s the Australian government set a quota for Italian migration at two per cent of the number of white English-speaking arrivals, in order to placate fears that a larger intake would undermine the Anglo-Australian character of the population. These attitudes underlined formal immigration preferences and the condemnation of Italian migrants who were feared primarily as an undesirable element in an already highly competitive labour market. The presumed inferiority of Italians was reinforced by their position at the unskilled end of the labour chain. By 1933 there were 4,588 Italy-born in WA. Continuing anti-Italian sentiment, manifesting most openly in the 1919 and 1934 Kalgoorlie riots, was both reinforced by, and contributed to, a growing fascist movement across Australia. Italy's enemy status eventuated in the massive internment of Italian immigrants during the Second World War. In WA, 1,044 were interned, which was more than 50 per cent of the then national total of Italian internees. WA Italians comprised the second largest group of Italy-born internees, after Queensland.

Despite the turbulence of this period, Italian migrants established a presence in the state that would facilitate the eventual

success of postwar arrivals. By the mid 1950s the proportion of Italians in agriculture had declined dramatically, but not before rural communities had been established in the South-West, extending from Mount Barker in the far south to Hyden in the central Wheatbelt, to the Greenough district near Geraldton. By the 1960s the state's Italy-born population was predominantly urban, employed in a range of industries including fishing, food, garment and construction with very high rates of self-employment. Italian communities developed in the shires of Wanneroo and Stirling, where families had settled in the late 1920s on lands vacated by those British brought out under the Empire Land Settlement Scheme. There has also been a continuing presence in the market gardens in Spearwood, south of Fremantle, and from Osborne Park to Wanneroo, north of Perth, including some orchardists and wine producers in the Shire of Swan. Early concentration and the makings of a 'little Italy' developed north of the railway line and city in the area now known as Northbridge and in the port town of Fremantle. The WA Italian Club was founded in 1934 (as the Casa d'Italia) and provided a focus for social and community life at least until the 1970s, when regional clubs and associations increased in popularity.

In the postwar period, Italy became the major single-source country of non-British migrants to Australia, facilitated briefly by the 1951 Bilateral Accord of the Italian–Australian Migration Agreement. Most Italians saw migration as an economic strategy employed by the family to improve life in Italy, and nearly all, initially at least, intended to repatriate. A settlement pattern characterised by high occupational and residential concentration was reinforced by both Australian and Italian migration policy that, from the mid 1920s, required migrants (aside from those who were wealthy) to have a sponsor. Consequently, chain migration patterns fostered the development of separate town- and

province-based communities contributing to the heterogeneity of the Italian population. Despite the government's best efforts to retain settlers, significant numbers of Italians returned to Italy or departed for another destination (around 40 per cent). Changes to Australian immigration rules, together with the markedly improved economic and social conditions in Italy, have led to a substantial decrease in Italian immigration since the 1970s.

Several Italian festivals have begun to feature in Perth's calendar of events and Italian consumer goods have become an important element of the local lifestyle. The last four censuses clearly indicate relatively high levels of education among the second generation and an expansion into the professions and middle class, similar to patterns found among the Australia-born. A relatively high rate of in-marriage in the second generation has been retained (40 per cent for the period 1996–98). According to the 2006 census, 20,934 people living in WA had been born in Italy, while 102,019 claimed Italian ancestry. It has only been in this recent period that an 'Italian-Australian community' has developed, through a combination of factors including the success of multicultural politics with its positive emphasis on ethnic identity, the increased social status and wealth of Italian migrants, the maturation and successful integration of the second generation, the rising international profile of Italy, and the arrival of 'less desirable' immigrants, which collectively have contributed to the development of a consumable, popular and marketable *italianità*. **Loretta Baldassar**

See also: Blessing of the Fleet; Entrepreneurs, immigrant; Migrant ethnic associations; Migrant reception; Migration; Race riots

Further reading: L. Baldassar, *Visits home: migration experiences between Italy and Australia* (2001); R. Bosworth and M. Bosworth, *Fremantle's Italy* (1993); G. Cresciani, *The Italians in Australia* (2003)

J

Japan, relations with Western Australia's relations with Japan have been important since the late nineteenth century. Contact was small scale and infrequent until the second half of the 1880s, when pearl divers from poor agricultural areas in Japan began appearing in WA. Though there have never been many Japanese in Australia, Japanese workers made a significant contribution to WA through pearling, achieving a virtual monopoly until the Second World War of diving and the associated tending. Just before the First World War there were more than 1,100 indentured Japanese workers in Broome. Some Japanese quickly showed the desire and ability to own luggers and compete directly with European pearlers, a tendency for which they were both admired and feared. Despite the Commonwealth's 1901 *Immigration Restriction Act*, the pearling industry was exempted from its provisions and Japanese divers and crewmen continued to arrive on special contracts, which in many cases were repeatedly renewed.

Japanese also worked in various places throughout the colony as boat builders and repairers, and as proprietors or employees of shops, laundries and hotels. There were comparatively few women: officially 209 in WA in 1901. A good number of those women had come from poor farming regions in Japan, not always willingly, to work as prostitutes in the pearling and mining areas and in Perth and Fremantle, and some of the male Japanese lived off their earnings, under cover of other occupations. After 1903, Japanese students, tourists and merchants were permitted to enter Australia on a temporary basis. Renewal of permits was common, however, and as a result, long-term residence was also common. By the time of the Second World War there were Japanese people who had been in Australia for thirty years or more.

Though Australia and Japan were allies during the First World War, official Australian thinking was dominated by fear of potential invasion from Japan from 1905 to 1945. Japanese and Australian soldiers fought fiercely in the Pacific from 1941 to 1945, and Japanese forces bombed several north-west ports in 1942–43. The harsh treatment of Australian prisoners by Japanese soldiers remains a bitter Australian memory. Meanwhile, immediately after Pearl Harbor, virtually all Japanese in Australia were interned, with about one hundred of their Australian-born children. Some 250 were taken from WA to camps in the eastern states. From February 1946 almost all the Japanese-born were forcibly repatriated, together with many of their Australian-born children, and the Japanese community in WA, as in the rest of Australia, was virtually eliminated. By contrast, most European internees were allowed to stay. From 1945 to 1952, many young WA soldiers experienced the devastation of postwar Japan at first hand through service in the British Commonwealth Occupation Force, based near Hiroshima. A number brought back Japanese brides, who were not, however, permitted to enter the country under Commonwealth law until 1952.

WA and Japan have since enjoyed a close trading relationship. From the 1960s the huge volume of minerals exported from Australia, substantially from WA, was critical in the development both of Japan's heavy industry

and Australia's mineral resources. From the mid 1960s until 2007 Japan was Western Australia's largest export market. In 2005–06 the state's exports to Japan of iron ore and other minerals, agricultural and fisheries products, beef, and other items reached almost $11 billion. Japan is also a prominent investor in WA gas, iron ore, and mineral sands projects, and in agriculture, plantations and tourism.

Since the 1970s, cultural and personal contacts have flourished. Over 50,000 Japanese tourists now visit WA annually. Japanese language is widely taught at all educational levels. Some ten WA cities and towns have Japanese 'sister' cities, and a sister-state agreement was signed with Hyogo Prefecture in 1981. Contacts through politicians, local governments, sporting bodies, student exchanges and working holiday arrangements are extensive and lively. **Sandra Wilson**

See also: Asian immigrants, nineteenth century; Asian immigrants, twentieth century; Asia, relations with; Internment

Further reading: A. Atkinson, *Asian immigrants to Western Australia, 1829–1901* (1988); M. A. Bain, *Full Fathom Five* (1982); N. Jones, *Number 2 Home: a story of Japanese pioneers in Australia* (2002); Y. Nagata, *Unwanted aliens: Japanese internment in Australia* (1996)

Jarrah dieback is a disease caused by the root-rotting fungus *Phytophthora cinnamomi.* It causes dieback and death of jarrah (*Eucalyptus marginata*) trees as well as several hundred other native species. The disease flourishes in low-lying areas and areas of impeded drainage. Natural up-slope spread through root-to-root contact is slow, but down-slope spread through water movement may be very rapid.

The disease was first observed in forest near Karragullen in 1921, but it was not until 1964 that the soil-borne fungus was found to be responsible. Thought to have been introduced in the root-ball of fruit trees, it was inadvertently spread throughout the jarrah forest, mainly through road-building activities. About 15 per cent of the state's jarrah forest is affected, but the disease occurs well beyond the jarrah forest, from Kalbarri to Esperance. Disease mapping is based on observations of understorey symptoms using large-scale shadowless aerial colour photography, or by intensive ground survey, confirmed by soil samples. From 1976, Forest Disease Risk Areas were declared, allowing large areas of generally healthy forest to be 'quarantined' to control any activities that might result in soil movement and possible disease spread.

The disease has a major economic impact because of its effect on the timber industry, but the threat to biodiversity and conservation values is even more significant because of the large number of native species that are susceptible. The movement of infected soil, for example on earth-moving machinery, in infected nursery soil, through feral pig activity and even on the boots of bushwalkers, can greatly accelerate the spread of dieback. The principal effective dieback control measure is to prevent the use and movement of infected soil. **F. J. Bradshaw**

See also: Environment; Exotic plants and weeds; Feral animals; Forestry; Timber industry

Further reading: B. Dell and N. Malajczuk, 'Jarrah dieback–a disease caused by *Phytophthora cinnamomi*', in B. Dell, J. J. Havel and N. Malajczuk (eds), *The Jarrah forest: a complex mediterranean ecosystem* (1989)

Jehovah's Witnesses, organised nationally from Sydney in 1901, and known as the International Bible Students Group until 1931, are formally known as the Watchtower Bible and Tract Society. The Subiaco congregation, forming the first Kingdom Hall founded in Western Australia in 1923 (rebuilt in 1992), can be regarded as both the organisation's

local branch office and local repository of Witness memory, though the development of the organisation in WA remains a topic to be more fully explored.

Contemporary leaders suggest that a handful of persons were already evangelising in WA by 1901, and that, somewhat notably, Violet Williams became the organisation's first local full-time 'publisher' in 1918. By this time the group had grown to thirty and was receiving interstate and overseas visitors.

National statistics kept by Watchtower from 1918 (130 persons growing to 305 in 1928, and 1,720 by 1938) are the most authoritative until the group made an impact on the census after the Second World War. Accounting for the 'explosion' in the growth of Witnesses just prior to and during the war remains a matter of debate as to whether this occurred because or in spite of a national ban in 1941 (3,503 in 1948). As conscientious objectors, Witnesses were especially pursued by legal authority and socio-military organisation alike, and their South Australian radio broadcasts were seen as provocative. The group was ultimately successful in view of freedom of belief protections guaranteed constitutionally in section 116, with bans lifted in 1943 and, in some instances, compensation paid.

Mass Baptism of Jehovah's Witnesses at Crawley Bay, March 1957. Courtesy West Australian *(V2992)*

A consequence of adopting a strong stance is that Witnesses hardened the civil rights basis on which they could argue issues of belief in secular societies, such as rejecting blood transfusions in the light of biblical interpretation and arguing for 'blood conservation surgery'. The issue of child inoculations is also one where Witnesses distinguish themselves in current debates.

Witnesses are most strongly represented in both WA and Queensland. At the 2006 census there were 10,642 Jehovah's Witnesses in WA. **Mike Pattison**

See also: Pacifism; Spirituality and religion
Further reading: R. Humphreys and R. Ward, *Religious Bodies in Australia* (1995); B. Oliver, *Peacemongers: conscientious objectors to Military Service in Australia, 1911–45* (1997); B. Oliver, 'Australia: Jehovah's Witnesses, Censorship during World War II and Radio 5KA', in D. Jones (ed.), *Censorship: A World Encyclopaedia* (2001)

Jetties The deep-water jetty illustrates more vividly than any other structure the dependence of Western Australia's economy on overseas trade, and how Australian primary producers and traders overcame major environmental obstacles. WA has few natural deep-water harbours, and since 1829 over fifty jetties were built around its coast to berth ocean-going or coastal vessels. Many jetties were lengthened or strengthened a number of times as deeper draught vessels came into service or more ships required loading at the same time.

Because of a rock bar across the entrance to the Swan River, goods for the earliest settlers were off-loaded from vessels berthed at South Jetty, a short jetty on the south side of Fremantle's western end. The goods were then taken up Cliff Street by cart to North Jetty, in the river, where they were loaded onto river vessels for passage to Perth. Long Jetty, extending from nearby Anglesea Point, replaced South Jetty in 1872. After four

extensions it reached its final length of 3,294 feet in 1896 and served the heavy traffic of the Golden Era until the inner harbour was opened from 1897.

Timber companies that obtained timber-cutting concessions during the 1870s had to build their own roads or tramways to the coast and jetties for shipping the timber. Of the total quantity of timber exported in 1890, 95 per cent (31,000 tons) was shipped from jetties at the company outports of Rockingham, Quindalup, Hamelin Bay, Flinders Bay and Torbay. After completion of the South-Western Railway from Perth to Bunbury in 1893, and the establishment of the colony's two biggest timber milling centres at Yarloop and Waroona, Bunbury became the principal timber port. In its busiest year, 1914, there were 203 ship movements and 343,000 tons of timber were loaded from the jetty, which at 89 feet was by far the widest in the state.

The first stage of the jetty at Busselton, Bunbury's early rival for the timber trade, was built in 1865 and was extended numerous times in the shallow waters of Geographe Bay, by 1929 reaching over one mile, to become the longest jetty in the state.

Carnarvon's jetty was built from Babbage Island in 1899 (extended twice to 4,900 feet) with a tramway bridge to the town. With over ninety ship movements a year, this was an important wool and sheep port until road haulage became more competitive from the 1950s. The jetty and bridge have been restored and the tramway, in 2005, carries passengers. Gladstone jetty, built in 1910 in Shark Bay, is the best-preserved example of a wool-lightering jetty, once common in the pastoral north, from which wool was lightered out to ships standing off in deeper water.

Albany, Western Australia's main port until 1900, had two main jetties (both demolished since 1972): the Town Jetty, built in 1861 and extended at least six times to reach 1,970 feet in the 1920s, and the Deepwater Jetty, built by the WA Land Company when it began to construct the Great Southern Railway in

1888, and extended to 3,124 feet by 1929. After completion of the East–West Telegraph from Albany to Eucla in 1877, jetties were built at Eucla, Israelite Bay and Esperance to service the repeater stations. Those at Eucla and Israelite Bay survive as impressive and remarkably intact ruins. The Esperance jetty was busy but inadequate during the early 1890s gold rush. Its existing timber jetty, the 'Tanker Jetty', was built in 1935 for the off-loading of diesel fuel for a Kalgoorlie mine.

Geraldton's first jetty, built in 1864, was replaced by the North Jetty in 1893 (extended to 2,250 feet by 1922). Geraldton was the first regional port to replace its jetty with a land-backed wharf in 1930, followed by Albany in 1954. In the 1960s there was a major expansion in the state's port facilities. All of the large timber jetties still in use were replaced, supplemented or modified, and the standard method of jetty construction underwent major changes. Timber piles were replaced with tubular steel piles and the wooden superstructure with one of reinforced concrete. The large timber jetties at the Kimberley ports of Wyndham, Derby and Broome were replaced with modern jetties as the large tidal range made land-backed wharves uneconomical. During the same period the iron ore company ports were established on the Pilbara coast. These include the Cape Lambert jetty, which was built for Robe River Iron Associates in 1971–72. At 18.8 metres above the local low water datum it is the highest jetty in Australia. **Richard G. Hartley**

See also: Infrastructure and public works; Merchant shipping; Timber industry
Further reading: J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986)

Jewish settlement, Kimberley Jewish settlement in northern Australia was proposed from 1906 and anticipated in 1939–44. Its greatest advocate was Dr Isaac Steinberg, the

secretary of the British-based Freeland League for Jewish Territorial Colonisation. He sought an alternative homeland for 75,000 refugees from Europe. The pastoral company Connor, Doherty and Durack Ltd offered Ivanhoe, Argyle, Newry and Auvergne stations to the Freeland League for £180,000. Those stations, which carried approximately 40,000 head of cattle, covered almost 7,000,000 acres (2,835,000 hectares) in the Kimberley and the Northern Territory. In 1939 an inspection by Dr Steinberg, M. P. Durack, Kim Durack and George Melville (an agricultural scientist) indicated that the land could produce irrigated crops and sustain a Jewish homeland. Dams, hydro-electric power, a research farm and other infrastructure were envisaged. The state government, reserving its right to make pre-settlement investigations, endorsed the proposal subject to Commonwealth approval of the immigration. The outbreak of war delayed the Commonwealth decision and, in intermittent public debate, homeland supporters argued for humane action that would yield economic and defence benefits to Australia. Their opponents warned of negative economic, political and social outcomes from a non-British colony. Australian Jews were divided and, in 1944, Prime Minister John Curtin refused permission for an exclusively Jewish settlement and the idea lapsed. By that time the state government had investigated soils and possible dam sites, and Kim Durack had experimented with crops on Ivanhoe Station. That work led to the establishment of the Kimberley Research Station in 1945–46 and the Ord River Irrigation Area in the 1960s. **Cathie Clement**

See also: Communities, intentional (alternative); Jews; Judaism; Kimberley; Ord River scheme; Pastoralism

Further reading: L. Gettler, *An unpromised land* (1993); B. Hooper, 'The unpromised land: a Jewish refugee settlement in the Kimberley?' in R. Bosworth and M. Melia (eds), *Aspects of ethnicity in Western Australia: Studies in WA history*, 12 (1991)

Jews Gold discoveries late in the nineteenth century generated the most notable of three Jewish migrations to Western Australia. The small numbers of Jews in the colony from its foundation rose to 129 in 1891, to 1,259 in 1901, and 1,790 in 1911. The influx resumed after the First World War; the census of 1933 recorded a Jewish population of 2,105. Between 1890–1902, congregations and synagogues arose in Fremantle, Perth, Coolgardie and Kalgoorlie. Of these institutions, the Perth Hebrew Congregation alone remained of continuing importance.

This pioneer migration consisted of two categories of newcomers: Anglicised Jews, mainly from eastern Australia with some from Britain, who readily adjusted to their new environment, and Yiddish speakers who came first from Czarist Russia and in the 1920s from Poland and Safed. They had difficulty establishing themselves. Suspicion between the groups was slow to disappear, but acculturation of the Yiddishers proceeded, and by the onset of the Great Depression, Perth Jewry was a unified community.

Refugees from Nazism in 1936–39 and from central and Eastern Europe in the postwar period comprised the second migration. Unfortunately Perth Jewry failed to seize these opportunities to augment their numbers. The community acquired fewer than 200 members from this prewar source and only 130 during the Calwell-initiated postwar immigration program. As a consequence, Western Australia's share of Australian Jewry declined. During those years, and subsequently, small numbers continued to arrive from Britain. During the 1950s and 1960s the community was ageing and growing slowly, recording census totals of 2,781 in 1961 and 3,102 in 1971.

The third migration, which commenced in the late 1970s, transformed Perth Jewry and produced census figures of 3,156 for 1981 and 5,296 for 2006. Because of the optional religion question, the actual total at the present time is not known but is believed to be in the vicinity of 6,000. South Africa

was the principal source of this intake, with Britain, Zimbabwe, Israel and Russia also represented. The new arrivals, with few exceptions, established themselves readily, and when their locally born children are included, the recent influx comprises above half of Perth Jewry today. The newcomers have enhanced the community's demography, strengthened existing communal organisations, and produced new congregations and synagogues. **David Mossenson**

See also: Jewish settlement, Kimberley; Judaism; Middle Eastern immigrants; Refugees; Southern Africans

Further reading: L. Gettler, *An unpromised land* (1993); D. Mossenson, *Hebrew, Israelite, Jew* (1990); B. Hooper, 'The unpromised land: a Jewish refugee settlement in the Kimberley?' in R. Bosworth and M. Melia (eds), *Aspects of ethnicity in Western Australia: Studies in WA history*, 12 (1991); D. Mossenson, *The Perth Hebrew Congregation, 1892–2002* (2003)

Journalism has made a remarkable contribution to the public record of life in Western Australia, initially through regular newspaper reporting of events. The nature of reporting has been influenced by technological change, first through the coming of the telegraph in 1877, which enabled the rapid transmission of news from other parts of the world and gave a stimulus to provincial newspapers, then with photographic illustrations from the 1890s, the development of radio from the 1920s, and, later, television from 1959. In recent years the Internet has been added to the journalist's palette with virtually all news sources having a web presence with dedicated websites, and the recent phenomenon of blogging, where journalists seek to extend their range through web logs or web journals.

There have been many notable journalists in WA. The first to practise as a journalist in WA was Charles Macfaull, who produced Western Australia's earliest known newspaper,

the handwritten *Fremantle Journal and General Advertiser* of 27 February 1830. Then in 1833 he established *The Perth Gazette and Western Australian Journal*, the progenitor of *The West Australian*.

Newspaper owners and editors have immense power to shape public opinion through journalism, and in the nineteenth and early twentieth centuries they saw no conflict of interest in championing particular causes or holding public office. John Winthrop Hackett, Anglican Irish-born lawyer, editor and part-owner of *The West Australian* from 1887 to 1916, was a member of the Legislative Council (1890–1916), a trustee of almost all Western Australia's cultural institutions and responsible for the establishment of the state's first university, which he later endowed. Frederick Charles Burleigh Vosper, a radical journalist from Queensland, first edited the *Coolgardie Miner* (1892–97), then established the *Sunday Times* in 1897, the same year he was elected to the Legislative Assembly. Under his editorship, the *Sunday Times* became the foremost satirical magazine of the colony and was frequently critical of those in authority. Queenslander Arthur Lovekin, who was appointed editor and managing director of the *Daily News* in 1882, was also a member of the Legislative Council (1919–31) and became one of the most influential journalists in the colony. James McCallum Smith, later proprietor of the *Sunday Times* and leader of the failed secession campaign in the 1930s, also saw no conflict in membership of the Legislative Assembly (1914–39).

Radical journalism was not limited to the *Sunday Times*. John Drew, editor of Geraldton's *Victorian Express* in the early 1890s, was constantly critical of the Forrest government and was gaoled for refusing to name his sources. The Attorney General Burt described the *Express* as 'a scourge', to which Drew retorted that it was 'a scourge of injustice… inhumanity…the oppressors of the poor…and of public robbers in every degree'.

There were other ways by which journalists attacked injustice. Edwin Greenslade ('Dryblower') Murphy wrote for the *Sunday Times* for many years, and in 1908 the paper published a collection of his verse in which he praised workers and attacked their exploitation by the wealthy.

In early 1911, concerned by their own working conditions, WA journalists formed a Pressmen's Association. The organisation was then renamed the WA Press Industrial Union of Workers, and in October 1911 officially became the WA district of the Australian Journalists' Association. The WA district decided on 19 January 1912, by twenty-eight votes to one, to call out the literary staff of the *Daily News*. It was the first strike of pressmen in Australian history.

Early in the twentieth century, newspaper editors and journalists spoke with many different voices—from the staid, conservative tone of *The West Australian* to the lively, challenging inflection of the *Sunday Times*. However, by the interwar years, apart from newspapers like the *Westralian Worker* (1900–51), edited by John Curtin between 1917 and 1928, the social reformist journalism of earlier years had largely disappeared. Lively and inventive reporting was a hallmark of the journalists of the *Truth*, first sold in Perth in 1903 and quickly attracting a large circulation for its sensationalism. This was later matched by the journalists of the *Mirror* (1921–56), who rarely let the truth get in the way of a good story.

With what some called 'gutter journalism' prevalent, it is not surprising that The University of Western Australia instigated the state's first journalism course in 1928, with the Newspaper Proprietors' Association responsible for technical instruction. Previously, journalists had been trained in-house through cadetships, augmenting formal studies at either university or technical college. The establishment of the Diploma of Journalism reflected the continuing interest of the WA branch of the Australian Journalists' Association in

raising standards. However, with decreasing enrolments, the course was permanently suspended in 1940. Basic training for journalists continued to be provided through cadetships with the major newspapers and the ABC News Service. In recent years, journalism courses have been offered at Curtin, Murdoch and Edith Cowan universities.

The arrival of the radio as an alternative source of information did not have an immediate impact on journalism. Newspapers remained the dominant medium and controlled the flow of news to radio stations, although towards the end of the 1930s this was contested, especially by the ABC. The Second World War changed matters because radio exploited its advantages; it was more immediate and personal than the press and, with journalists of the calibre of Chester Wilmott and Alan Moorehead, became the major source of information about the progress of the war. After the war, radio became a definite career option for journalists, especially in the News and Current Affairs division of the ABC and the commercial stations.

The introduction of television to Australia brought another change to journalism. By the 1970s investigative journalism became a feature of the current affairs programming. The most significant examples of the genre were ABC productions: *Four Corners* at the national level, and a Western Australian initiative, *This Day Tonight* (first hosted by Tony Evans) was the forerunner of *Today Tonight* and the *7.30 Report*, which had substantial regional content for many years.

Women journalists made their mark very slowly in the WA media. Until the latter part of the twentieth century they generally reported solely on 'women's' issues. Bonnie Giles was the first woman in the state to gain a cadetship in journalism when she joined the *Daily News* in 1928. Her 'Mary Ferber' column was a part of the *Daily News* for many years. Pat Higgins joined *The West Australian* in 1954, two years later becoming the first full-time woman sports journalist in WA.

Kirwan Ward became one of the state's most respected journalists after joining Perth's afternoon newspaper, the *Daily News*, in 1946. He started a popular column, 'Peep-show', in the same year, and when cartoonist Paul Rigby joined the paper in 1953, the pair, who became known affectionately as the Rigward team, gained recognition throughout Australia and later overseas. Rigby went on to win an unmatched five Walkley Awards (1960, 1961, 1963, 1966, 1969) for his cartoons. Indeed, a disproportionate number of WA cartoonists have won Walkleys since the establishment of these national awards in 1956: *The West Australian*'s Cedric Baxter (1968), Allan Langoulant from the *Daily News* (1973), and Dean Alston from *The West Australian* (1991). News photographers have also won national acclaim, with Maurice Hammond (1957), Rodney White (1973), Nicholas Ellis (1992), Tony Ashby (1993, 1995) and David Parker (1997) all winning Walkleys. Among Walkley Award winners for feature stories and reporting were *Daily News* journalists Dan O'Sullivan (1960), James Henderson (1964) and John Coulter (1966), *West Australian* journalists Ian Hummerston (1972) and Catherine Martin (1973, 1976), and the *Geraldton Guardian*'s Clyde Palmer (1976). Since the 1970s, however, few Walkeys have been won by WA journalists, exceptions being Chris Johnson of the *Geraldton Guardian* (2002), Michael Southwell of *The West Australian* (2002), and, notably, Estelle Blackburn, who won the 2001 Walkley Award for her investigative work.

Indeed, crusading investigative journalism has had major impacts on WA society. Ranking high is the 1949 incident in which the *Sunday Times*'s Laurence Turner became an attendant in Claremont Mental Hospital to investigate alleged cruelty to patients. His revelations resulted in a royal commission that recommended measures to eliminate harsh treatment. More recently, Estelle Blackburn's investigative journalism resulted in the reopening of the separate cases of convicted killers Darryl Beamish and John Button, and the overturning of their convictions. **David Marsh, Jenny Gregory and Frank Dunn**

See also: Australian Broadcasting Corporation, *Daily News*; *Independent*; *Mirror*; Newspapers, colonial; Newspapers, country; Newspapers, goldfields; Newspapers, suburban; Radio; *Sunday Times*; Television; *West Australian*; *Western Mail*; *Westralian Worker*
Further reading: J. Hay, 'Literature and society', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); C. J. Lloyd, *Profession–journalist: a history of the Australian Journalists' Association* (1985); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979)

Journals and magazines Western Australia has been well served by its literary journals. The student-edited *Black Swan* magazine (1917–39 and 1946–49) included commentaries on social issues and literary offerings by many undergraduates including H. C. Coombs and Dorothy Hewett. *Arts Quarterly* (1949–50), edited by P. E. Parsons and P. O'Brien, was succeeded by *The Winthrop Review: A Literary and Cultural Magazine* (1953–55), first edited by H. P. Heseltine and G. C. Bolton. The longest-running of Western Australia's literary journals is *Westerly*, founded in 1956. Other cultural journals have included *The Critic* (1961–70), published by the UWA Literary Society (revived in 2006 as the *New Critic*, an online journal published by UWA's Institute of Advanced Studies), *CraftWest* (1968–2000), Fremantle Arts Centre's *Patterns* (1974–81), *Artlook* (1975–83) and *Praxis M* (1983–88).

There have also been numerous professional journals published in WA. Perhaps the oldest continuously running are: *The Education Circular* (1898–1994, continued as *School Matters*); the *Journal of Agriculture* (1898–1999); the *Civil Service Journal*

(1903–96); the *Journal of the Royal Society of Western Australia* (established in 1909 as the *Journal of the Western Australian Natural History Society*); the *Journal of the Royal Western Australian Historical Society* (1927–); *Studies in Western Australian History* (established in 1934 as *University Studies in History and Economics*); *The Architect* (1939–); *Educand* (1950–60); *Australian Journal of Higher Education* (1961–73); *South Asia* (1971–); *Studies in Music* (1971–); *Anthropological Forum* (1963–); and *Western Geographer* (established as *Hesperides* in 1967).

There has been little research into the history of magazine publishing in WA. There are some forty-seven literary periodicals, mostly of brief duration, held in the State Library of WA. Notable periodicals and magazines of the early twentieth century included *Boans Family Annual and Reference Book* (1914–18), and the monthlies *Western Homes* (1929–30), *Turner's* (1937–39), *Turner's Western Vogue* (1939–40), *Your Home and Garden in WA* (1947–49) and *Road and Home* (1951–52). **Bruce Bennett and Jenny Gregory**

See also: Book publishing; Performing arts criticism; Scientific literature; *Westerly*

Judaism The progress of the Perth Hebrew Congregation (PHC) covers much of the history of Judaism in Western Australia. One of four such organisations that emerged late in the nineteenth century, its synagogue in Brisbane Street became the focus of Perth Jewry's religious and social life for over seven decades.

Founded in 1892, the PHC is an Orthodox Hebrew congregation. Rabbi D. I. Freedman, trained in London, was its first chief minister from 1897 to 1939. Early in his career his liberal style affronted some elements who, seeking stricter adherence to the tenets of orthodoxy, built a synagogue in Palmerston Street. Always small in number, the breakaway group operated for several years till drift of members to the PHC led to its demise. Freedman achieved great public prominence, gradually integrating Perth Jewry into the wider society.

Rabbi Louis Rubin-Zacks followed Freedman, holding office between 1940 and 1964. During his ministry the Jewish community was split by the advent of Progressive Judaism, which rejects a literal interpretation of the Bible and conducts services largely in the vernacular. Bitter relations characterised the two congregations for some time.

The Liberal Jewish Group, appealing mainly to former refugees from central Europe, was formally established in 1952. It held services in private homes and rented premises before establishing headquarters in Clifton Crescent, Mt Lawley, in 1954. George W. Ruben became its first rabbi, serving from 1956 until 1969, and the group was renamed Temple David in 1956.

Rabbi Dr Shalom Coleman, PHC's chief minister, 1965–85, modified religious services to conform fully with traditional practice, and ensured that food served at functions after services and religious events complied with dietary laws, so that the PHC became orthodox in fact as well as name. He obtained a land grant of two acres at Menora, and in 1974 the PHC opened a new synagogue with seating for above one thousand worshippers. Subsequent additions equipped the synagogue complex to provide all the facilities needed for the practice of orthodox Judaism.

The two years following Coleman's retirement proved difficult for PHC. Rabbi Michael Orelowitz, the new chief minister 1986–87, was American-trained, and although highly qualified his behaviour created situations that affronted congregants. The congregation fell seriously into debt until changes in the Board of Management and levies on the membership restored financial stability. Orelowitz resigned. Australian-born Rabbi Dovid Freilich assumed the position of chief minister in 1988. Among his innovations are

a *Torah* library and a childcare centre, both in the synagogue precinct.

Chabad–Lubavitch (an ultra-orthodox movement) established itself in Perth in 1987. It has a property in Alexander Drive named *Chabad* House as its headquarters, where Rabbi Mordechai Gutnick conducts services. Small informal religious meetings are also held in the Jewish Aged Home.

In the 1980s significant numbers of Jews from South Africa settled in Noranda. Initially they conducted religious services in private homes and, as numbers grew, a hall. The Northern Suburbs Hebrew Congregation, as they became known, built a synagogue on land made available by the Shire of Bayswater in 1992. They formed a liaison with *Chabad*, which assisted the congregation for a few years. Reverend Chaim Davidowitz was the minister in charge in the early twenty-first century.

The latest addition to Perth Jewry's places of worship is the 300-seat Dianella synagogue established by Beit Midrash of WA early in 2003. Jewish parents in Dianella had initially conducted occasional Sabbath prayer sessions in private homes to enable their children to conduct part of the service. Their meetings attracted an increasing number of worshippers and they bought land as a site for a new synagogue. The Dianella synagogue draws much of its membership from young ex South Africans. Rabbi Marcus Solomon is its honorary chief minister.

The role of the PHC has been preserved during the recent growth in Perth Jewry. In the early twenty-first century its membership exceeded the combined total of the other congregations. At the 2006 census 5,296 people identified themselves as adherents of Judaism.

After the Second World War the provision of Jewish education was enhanced, with the establishment of a kindergarten in 1957 leading in the following year to the foundation of Carmel School, which gradually expanded to provide a full secondary education from 1978 onwards. **David Mossenson**

See also: Jewish settlement, Kimberley; Jews; Spirituality and religion
Further reading: P. Masel, *The first decade: the story of the birth and growth of Liberal Judaism in Western Australia* (1962); D. Mossenson, *Hebrew, Israelite, Jew* (1990); D. Mossenson, *The Perth Hebrew Congregation, 1892–2002* (2003)

Jury service Each Australian state/territory has its own *Jury Act*. The evolution of jury trials included references in the Magna Carta (1215) and received statutory form in the Bill of Rights (1689). The jury system in the Swan River Colony followed the English model with the first jury trial in Perth in 1833. Jury qualification was restricted to males owning land, and jurors were paid. Jury service, as now provided by the *Juries Act 1957* and amendments, is a compulsory civic duty applying to all persons aged eighteen to seventy on the Western Australian Electoral Roll, with provision for exemptions. In jury trials the judge deals with questions of law, the jurors with the facts. Historically, twelve persons were required to reach a unanimous verdict. Now a majority verdict of ten is allowed after three hours' deliberation in criminal trials other than for murder or strict security life imprisonment. In 1957 women received a long-overdue right to serve on juries; and the right of excuse for family reasons in 1984. Research in Western Australia and elsewhere indicates strong community support for jury trial, despite some sceptics, and it can be stated the jury is to the justice system what the ballot box is to a democracy. **Ivan Vodanovich**

See also: Feminist movements; Law
Further reading: Law Reform Commission of Western Australia, *Review of the criminal and civil justice system in Western Australia* (1999); I. M. Vodanovich, 'The criminal jury trial in Western Australia', PhD Thesis, The University of Western Australia (1989)

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Kalgoorlie-Boulder The City of Kalgoorlie-Boulder covers an area of 95,575 square kilometres. Coolgardie was the first of the Eastern Goldfields towns to be created in 1893, subsequent to the discovery of 'Bayley's Reward' by Arthur Bayley and William Ford. It is claimed that the town was named by Warden John Finnerty from the Aboriginal word for the area. Patrick Hannan discovered gold near Kalgoorlie in June 1893. As word of the find spread, thousands made their way to the rich alluvial goldfields of 'Hannan's Find', and later pegged leases at what was to become known as Boulder. The name 'Kalgoorlie', an Aboriginal word, was chosen for the new townsite, and this was gazetted in September 1894. The adjacent town of Boulder was gazetted in 1896 and named after W. G. Brookman and Sam Pearce's gold-mining lease 'The Great Boulder'. The richer and larger yields at Kalgoorlie and Boulder overshadowed Coolgardie, and from 1900 it was often referred to as 'old camp'.

Tents and crude buildings constructed of canvas, hessian, iron, tin, and/or bush boughs were the characteristic structures erected at new fields throughout the Eastern Goldfields, and only made way for permanent buildings once a town had been established. Indeed, it was the opening of the railway to Coolgardie in 1896 that led to the construction of large stone public buildings like the Post Office & Warden's Courts (1898) and the demolished Mining Exhibition building (1899). As Kalgoorlie and Boulder developed too, the original canvas and tin shelters made way for timber buildings, in turn replaced with permanent

structures as Kalgoorlie became the administrative and commercial centre of the Eastern Goldfields. Prosperity and confidence were expressed by the substantial and elaborate stone and brick buildings constructed along the main streets of Hannan Street, Kalgoorlie, and Burt Street, Boulder. Both remain intact streetscapes with the majority of buildings constructed from 1895 to 1910 and designed in the Federation Classical and Filigree styles. Examples include the Government Buildings, Kalgoorlie (1897), the Boulder Court House (1900), the Boulder Town Hall (1907) and the Kalgoorlie Town Hall (1908), and, of the commercial buildings, the Cornwall Hotel (1898), the *Kalgoorlie Miner* Building (1900) and McKenzie's Building (1904).

From the first decade of the twentieth century, Coolgardie continued to decline and many businesses were sold or abandoned. As was the case with other 'dying' gold towns, buildings were dismantled, the brick, timber and iron sold, and the materials reused. Those few buildings that remain reflect the town's more prosperous history, such as the Railway Hotel (1896) and the Denver City Hotel (1898). A boom in the gold industry in the 1930s resulted in new works in Kalgoorlie and Boulder, including the Cremorne Theatre (rebuilt in 1937) and the prominent art deco Lord Forrest Olympic Pool (1937).

In the late twentieth century an increase in gold prices and technological advances in mining led to new growth of industry and the region. The City of Kalgoorlie-Boulder, with a population of 28,422 people in 2006, is currently the most populated regional city

in Western Australia and is the location of six of the seven largest gold producers in the state, one of which is the 'Super Pit'.
Kristy Bizzaca

See also: Eastern Goldfields; Eastern Goldfields Reform League; Gold; Goldfields theatre; Goldfields water supply; Newspapers, goldfields; Typhoid epidemics
Further reading: M. J. Webb and A. Webb, *Golden destiny: the centenary history of Kalgoorlie-Boulder and the Eastern Goldfields of Western Australia* (1993)

Karonie feeding depot, 110 kilometres east of Kalgoorlie, opened as a watering and maintenance depot for the transcontinental railway in 1917. Soon after, small groups of Wongi people from the country between Karonie and Linden began visiting. Over the next two decades other Aboriginal people, from north of Karonie, Kalgoorlie, the Nullarbor, and as far as Ooldea in South Australia, visited and sometimes stayed. They came to attend ceremonies, or because drought and a lack of game forced them in from more remote areas, often in a semi-starving condition.

Reports that people were begging from and bartering with train passengers caused the state government considerable embarrassment, and efforts were made to prevent this interaction. Yet authorities long resisted calls to provide assistance, saying it would encourage a larger and more permanent Aboriginal population at Karonie. However, another influx for a major ceremony in 1927 forced a change in policy, and a government feeding depot was established. Weekly rations and, occasionally, clothing were provided for as few as sixteen to as many as two hundred people. Depot inmates were subject to strict control by the resident superintendent and children were on occasion removed from their parents to missions such as the one at Norseman.

Karonie feeding depot operated until 1940, when the inmates were shifted to a new site at Cundeelee, north of the railway. In order to enforce the move, and to prevent further exchanges between Europeans and Aborigines, Karonie was subsequently declared prohibited to Aboriginal people.
Craig Muller

See also: Feeding depots

Karrakatta Club, founded in 1894, is the oldest women's club in Australia. The motivation for the establishment of the club came from visiting American medical practitioner Dr Emily Ryder, who encouraged Perth's St George's Reading Circle to establish a new women's club for mutual help, self-improvement, and the advancement of women. The original thirty-eight members paid one guinea membership and, through their connections, were able to influence social change.

The founding office bearers were a remarkable group of women. The inaugural President was Lady Madeleine Onslow, wife of Chief Justice Alexander Onslow. The Vice President was Emily Hensman, President of the Woman's Christian Temperance Union and wife of the Attorney-General. Miss Helen Ferguson was Treasurer, Mrs James Cowan Recording Secretary, and Miss Amy Jane Best (headmistress of a private high school for girls with Miss Nisbet) was Corresponding Secretary. Miss J. A. Nisbet, Gwenyfred James, wife of Walter James (then MLA for East Perth, the first to introduce a bill for female suffrage, and later premier), and Lady Margaret Forrest (accomplished artist and wife of premier Sir John Forrest), headed up the four departments of the club—hygiene, literary, artistic, and legal and educational.

Early members of the club were instrumental in the formation of other women's organisations in Western Australia, particularly the Women's Service Guild (WSG), founded in 1909, which took on some of the more radical interests of the club's founders. Numerous influential women have held office, notably Dr

Roberta Jull, the first woman doctor to practise in Perth, and Ethel Joyner, founding member of the WSG and active in many women's organisations. Several politicians have been members, significantly Edith Dircksey Cowan, Australia's first woman parliamentarian, who was also responsible for the club motto *Spectemur Agendo*, 'let us be judged by our actions'; and in more recent years June Craig, Diana Warnock, Elizabeth Constable and Barbara Scott. Membership peaked in 1969 with nearly nine hundred members.

Meetings were first held in rented premises until the club purchased 186 St Georges Terrace in 1924, relocating to the heritage-listed Lawson Flats in Sherwood Court, Perth, in 1986. Karrakatta Club has international affiliation by association with the network of Lyceum Clubs and provides reciprocal arrangements including accommodation. **Hilary A. Silbert**

See also: Female suffrage; Feminist movements; Gender; Weld Club; Western Australian Club; Women and political representation; Women's Christian Temperance Union; Women's Service Guild
Further reading: D. Davidson, *Women on the warpath: feminists of the first wave* (1997); J. Mitchell, *History of the Karrakatta Club, 1894–1994* (1994)

Kimberley The Kimberley region covers the far north of Western Australia and, larger than many countries, encompasses 421,451 square kilometres (one-sixth of the state's total land area). It is bordered by the Great Sandy Desert to the south and the Northern Territory to the east. The terms East and West Kimberley are used to distinguish one side of the region from the other. The region consists of four local government areas, the Shires of Broome, Derby–West Kimberley, Halls Creek and Wyndham–East Kimberley. The major population centres are the towns of Broome, Kununurra, Derby, Halls Creek, Wyndham

and Fitzroy Crossing. Approximately one-third the resident population, which was estimated to comprise 30,837 people in 2006, is Aboriginal.

When Europeans first sought to colonise the region in the mid 1860s, the thousands of Aboriginal inhabitants consisted of dozens of different language groups. Each group occupied, and was responsible for, an identifiable tract of country. Over the previous few centuries, some of them had experienced intermittent contact with European mariners and explorers and Malay fishing parties.

Seasonal trepang fishing, made possible by monsoon winds and the nearness of the Indonesian archipelago, extended eastward to the Gulf of Carpentaria and dated from at least 1803. It was still occurring when pastoral associations dispatched colonists to Camden Harbour and country south of Roebuck Bay in the mid 1860s. The last of those sheep farmers, daunted by isolation, heat, debilitation, and conflict with Aboriginal people, withdrew after several years.

In the late 1860s and early 1870s, marine resources such as guano, pearl shell, and turtles attracted a fresh batch of adventurers and entrepreneurs. Over time, their forays resulted in contact with Aboriginal people along the northern coast from Cossack to Torres Strait. Pearlers used both Aboriginal and Asian people to collect shell and, for the duration of the pearling season, spent most of their time aboard their luggers. Ships also frequented the locality, collecting guano from the Lacepede Islands, Browse Island, and Ashmore Reef. Cyclones claimed vessels as early as 1878.

Some of the fresh water required by pearlers and by government employees on the Lacepedes came from springs at Beagle Bay. The Aboriginal people shared the water willingly and led Alexander Forrest's exploration party to it in 1879. Then, after he visited the Lacepedes, they escorted the explorers across their country to King Sound. Forrest and his companions then crossed to the Overland

Telegraph Line in the Northern Territory, mapping the country en route.

Forrest reported favourably on the region's grasslands. The existence of offshore industries facilitated pastoral occupation in the West Kimberley and gave an exotic edge to the imposition of a settler society there. A flock of sheep arrived in 1879 but, for several years, settlement was limited to a few people shipping livestock and plant northward at irregular intervals. They aimed to produce wool and mutton with the help of Aboriginal shepherds, but some also engaged in pearling and/or the recruitment of labour for that industry. In this remote locality, some pearlers kidnapped Aboriginal people and forced them to dive for pearl shell, while others formed more amicable relationships. Violence resulted in occasional deaths. Whites were rarely punished, but when Aboriginal people were the aggressors they were imprisoned on Rottnest Island. Pearling and recruitment altered in 1885 with the introduction of dress diving and an increase in the immigrant population.

The imposition of a settler society in the East Kimberley, although occurring only a few years later, differed markedly from the West Kimberley experience. The East Kimberley settlers arrived at intervals from 1884, mostly droving cattle from the eastern colonies. The names of Durack and Buchanan are best remembered for those epic treks. Flocks of sheep arrived via Torres Strait but were less viable than cattle. Pastoral occupation resulted in settlers and thousands of head of livestock monopolising Kimberley water sources, unknowingly desecrating important Aboriginal sites, reducing traditional food supplies and generally disrupting the traditional way of life. Those impacts and the sexual liaisons that occurred between immigrant and Aboriginal populations made violent clashes inevitable.

By the time the colonial government established a presence in the Kimberley in April 1883, pastoralists, pearlers and speculators held the best land and water around King Sound and the west coast. The harvesting of guano was almost at an end but, over the next few years, Browse Island would still yield occasional loads. The ongoing use of the guano-depleted Lacepede Islands epitomised the complexity of the developing race relations. Some pearlers caught turtles there for appreciative Aboriginal workers on the mainland, while others detained forcibly recruited divers there in readiness for the pearling season.

Resident Magistrate Robert Fairbairn and a police detachment lived in Derby (the region's first townsite) for sixteen months before anyone purchased land there. Manning and Ward then bought the first town lot and opened a public house known as the Kimberley Hotel. Other lots sold, but it took a gold rush to generate strong public interest in Derby. Talk of gold finds inland began to circulate in August 1885. In 1886 it prompted thousands of men and a few women to head for the Kimberley. Derby grew, and a narrow strip of tents and well-constructed commercial premises sprang up below the Bastion in the yet-to-be-declared Gulf townsite of Wyndham. In the goldfield settlements of Halls Creek, Ruby Creek, Mary River, Panton River, the Brockman, and Mount Dockrell, business premises were less substantial. Some were merely the camps of carriers who sold wares from wagons or strings of pack animals. Gold proved elusive. Most of the prospectors left, and by November 1886 the hotels and stores in Wyndham and Derby almost outnumbered the residents. By then the government had sold the first lots in the Broome townsite. No immediate development occurred there, but infrastructure continued to be built elsewhere.

In one significant development, the telegraph line from Perth reached Broome and Derby in 1889. The simultaneous provision of a cable service connected Broome with Britain, via Asia, and, later that year, the telegraph line reached Halls Creek.

Telegraph services were also provided at Fitzroy Crossing (1890), Wyndham (1893) and Turkey Creek (1897). The construction and ongoing presence of the telegraph line in country occupied by Aboriginal people added to the conflict generated by the pastoral industry, pearling and mining. In parts of the East Kimberley, where porcelain from the insulators proved popular for spearheads, the police were responsible for preventing its removal. They made numerous arrests and, as happened in similar circumstances elsewhere, sometimes shot people who tried to evade or resist arrest.

Conflict was greatest at the extremities of pastoral settlement. There, Aboriginal people had yet to accept that, if they wanted to remain on their country, new circumstances obliged them to form an alliance with those to whom the government had granted tenure. In most cases the alliance took the form of exchanging labour for food, tobacco and clothing available from pastoralists, pearlers, police, postal officials, carriers, householders and missionaries. The alternative, particularly for those who killed livestock or other people, was often violent death or lengthy incarceration. Decades would pass before the old and new residents of the Kimberley found ways to co-exist.

Twentieth-century events in the Kimberley were much the same as those in other parts of the tropical north. Technological advances in communications and transport slowly reduced the risks and hardship associated with living and working in remote localities. The First World War took people from the region and, by closing markets for shell, temporarily crippled the pearling industry. The Second World War saw Japanese people from Broome interned, non-Aboriginal women and children evacuated, and service personnel stationed in the region. Changes in the pastoral industry saw strains of drought-resistant cattle introduced in the 1950s and sheep phased out by the 1980s. Prospecting, mining and pearling remained part of the economy,

with pearl culture growing in strength after its introduction in the 1950s. Individuals, missions, and the government experimented with tropical agriculture, and it too became an important industry around Broome and Kununurra.

The towns continued to provide services, entertainment and, where relevant, port facilities. Broome, through its long association with the pearling industry, remained exotic, but other towns also had residents of various nationalities. The Ah Chee and Quan Sing families were part of Derby's business community from the 1890s. The Lee Tong family ran stores in Wyndham from the early 1900s, and for decades Afghan camel drivers carried goods from that port to Halls Creek and some inland stations.

The second half of the twentieth century saw the relocation of Halls Creek and Fitzroy Crossing, the separation of town and port facilities at Wyndham, and the establishment of Kununurra, Lake Argyle and the Ord River Irrigation Area. The 1986 sealing of the last section of Highway One, between Fitzroy Crossing and Halls Creek, turned tourism into a major industry. At the beginning of the twenty-first century, between the months of May and October, more than 300,000 people visit the region. Some enjoy the towns, resorts and stations while others seek the pindan woodland, mangrove-fringed shore, black soil plain, desert and rocky ranges that make the region unique. **Cathie Clement**

See also: Aboriginal labour; Aboriginal languages; Broome; Bungarun; Camden Harbour; Derby; Exploration, Aboriginal roles; Exploration, land; Fitzroy Crossing; Frontier violence, Kimberley; Halls Creek; Kimberley Land Council; Kununurra; Massacres; Missions; Ord River scheme; Pastoralism; Pearling; Rivers of the Kimberley; Wyndham

Further reading: C. Clement, *A guide to printed sources for the history of the Kimberley region of Western Australia* (1996); M. Durack, *Kings in grass castles* (1968);

Kimberley Language Resource Centre, *Moola Bulla: In the shadow of the mountain* (1996); D. McGonigal, *The Kimberley* (2003)

Kimberley Land Council Formed at a meeting at Noonkanbah station in May 1978, the Kimberley Land Council (KLC) was the first Aboriginal land rights organisation to be established in Western Australia. People from more than thirty Aboriginal communities met to celebrate Aboriginal law and culture. Land rights were discussed, along with issues such as unemployment and the lack of decent housing. Aboriginal people had fought for over a century to stay on their country, so the struggle for land rights in the Kimberley was not new in the 1970s, but recent mining exploration and development had created increased pressures for Aboriginal people to have their traditional rights to land recognised. The background to the establishment of the Land Council in 1978 was a protest against a mining company, Amax, which wanted to drill for oil on sacred land on the Aboriginal-owned pastoral station at Noonkanbah.

At the first meeting of the Kimberley Land Council, Frank Chulung was elected chairman and Jimmy Bieundurry vice-chairman. At a further meeting in July an Executive Council was elected, with equal representation from the east and west Kimberley. At these and other meetings in the early years of the land council, Aboriginal people had virtually no money yet travelled across the Kimberley, chucking in for petrol and food. With few material resources and against a state government opposed to Aboriginal land rights, the KLC was an influential advocate for land rights legislation, for amendments to the *Aboriginal Heritage Act*, and for solutions to Aboriginal social and economic disadvantage.

With the introduction of the *Native Title Act* in 1993, the KLC became the native title representative body (NTRB) responsible for progressing native title claims on behalf of Kimberley traditional owners. Although this new function entailed an increase in Commonwealth funding, it also proscribed the range of activities the land council could undertake. The 1998 amendments to the *Native Title Act* placed increased statutory and fiduciary duties on the Executive Council and senior staff, and resulted in a reduction of the right to negotiate in relation to future acts. KLC was among the organisations that lobbied against the amendments.

The KLC provides native title services to over twenty-five native-title claimant groups across the region. Representatives from these claim groups comprise the governing Executive Council of the KLC. Between 1998 and 2006 the KLC represented the following claimant groups in native-title litigation in the Federal Court: Miriuwung Gajerrong, Karajarri, Tjurabalan, Bardi Jawi, Wanjina Wunggurr Wilinggin, and Rubibi. Determinations of native title were made in all of these cases. **Fiona Skyring**

See also: Aboriginal Land Councils; Aboriginal legislation; Native title; Noonkanbah dispute
Further reading: S. Hawke and M. Gallagher, *Noonkanbah: whose land, whose law* (1989)

King Edward Memorial Hospital (KEMH) is Western Australia's only tertiary maternity and gynaecological hospital. Located in Subiaco, KEMH provides services for women and neonates from all over the state. In 1909, Principal Medical Officer Dr J. W. Hope deplored the lack of facilities for pregnant women; a women's conference in Perth discussed the need for a public maternity hospital; and a meeting held by the Women's Service Guild, at which Lady Edeline Strickland described the system at Alexandra Hospital, Hobart, suggested the establishment of a hospital in Perth on similar lines, for married and single women. After the government agreed to the Guild's suggestion to develop a small nucleus maternity hospital at the Government Industrial School (1897) in Subiaco, it was

converted for this purpose. Opened in 1916, and named at the suggestion of John Simpson, son of a maternity nurse, it was the state's first public maternity hospital. Edith Cowan (foundation Vice President of the Women's Service Guild and later the first woman elected to an Australian parliament) served on the committee formed to organise and assist in its establishment and on the Advisory Board appointed, with Jean Beadle (founder of the WA Labor Women's Organisation and long-serving executive member of the Women's Service Guild) as Secretary (1916–41).

In the interwar period, additions to the hospital included an antenatal and postnatal ward and the Centenary Ward (1932), providing the first facilities for gynaecology and for private and intermediate fee-paying patients. With assistance from the Lotteries Commission, a new multi-storey main building, with artworks by Edward Kohler, was completed in 1939, and the architectural-award-winning Agnes Walsh Nurses' Home in 1953.

In response to women's changing needs, the postwar period has been characterised by the development of additional services and expansion of facilities, including physiotherapy, cancer screening, the Adolescent Health Clinic and the Sexual Assault Referral Centre. New buildings have been added, including 'B' Block (1979) and the Family Birth Centre (1992), which reflect changing practices in maternity care. Opening of the Centre for Women's Health at the hospital in 1994 was an acknowledgement of the non-hospital services located there. A major teaching hospital—for midwifery since 1916, and medical studies from the 1950s—more recently KEMH has also developed as a major centre for research, while continuing to provide for more than 4,500 births annually, as well as caring for approximately 5,000 women with gynaecological conditions each year. **Robin Chinnery**

See also: Birth; Cancer; Infant mortality; Nursing; Public health; Welfare; Women's health organisations; Women's Service Guild

Further reading: D. Davidson, *Women on the warpath: feminists of the first wave* (1997); K. Spillman, *Identity prized: a history of Subiaco* (1985); K. Spillman, *Tales of a singular city: Subiaco since the 1970s* (2006)

Kings Park and Botanic Garden is an area of approximately 400 hectares situated in central Perth. The natural topography of the land makes it a prominent feature of the landscape. The traditional owners, the Wadjug, called the bluff Mooro Katta. Governor James Stirling named it Mount Eliza. Today the parklands and botanic gardens are magnets for visitors viewing the city.

The area had been designated a public park by 1838, but was gazetted as Perth Park in 1872. Its development in 1895 and naming by the Duke of Cornwall and York in 1901 as Kings Park, after Edward VII, was a product of the gold rush period. It had became a special project for Premier Sir John Forrest and a number of his colleagues, including newspaper owner and philanthropist John Winthrop Hackett and architect George Temple Poole. It is an example of the nineteenth-century philosophy of providing open space as lungs for a city and, as a people's park, was one of the 'civilising' institutions of the 1890s, marking the maturity of the colony.

The developed areas echo English parklands of the style usually called picturesque, while the remainder has been left as bushland. Forrest was interested in mixing exotic with native flora to provide colour, while early gardener Daniel Feakes's passion was for grottoes, rockeries and terraces, leaving a legacy unique in Australia.

Kings Park is the site of many memorials to prominent citizens and especially to men and women who died in conflict. These include the State War Memorial (1929) and the magnificent avenues of trees on May and Lovekin drives (the brainchild of Arthur Lovekin, editor and owner of the *Daily News* and an original member of Kings Park Board). This has given

the park a ceremonial role in the life of the state as a prominent symbol of public sacrifice.

In 1965 botanic gardens were opened in the park, and later a botanical research institute, which has achieved international standing. **Dorothy Erickson**

See also: Anzac Day; Botany; Collections, plant; Gardens, domestic; Parks and gardens; Public art; Royal tours; War memorials
Further reading: D. Erickson, *A Joy Forever: The story of Kings Park & Botanic Garden, Perth, Western Australia: prepared for King's Park & Botanic Garden* (1997)

Korean War The Korean War of 1950–53 had little immediate impact on the Australian states. Following the invasion of South Korea by the Communist North on 25 June, Australian regular forces were assigned quickly and directly to the theatre of war from contingents already stationed in Japan with the Allied Occupation Force. The Australian forces joined those from fourteen other nations. The Australian government's decision to enter the Korean War in support of the United Nations was fully endorsed by the major Opposition party, the Labor Party, and the nation, too, supported Australian involvement.

During the ensuing conflict, 17,866 Australians served in the United Nations international/USA-commanded formations, with 399 lives lost. Some 1,800 Western Australians participated, with 34 casualties. Although a small part of the overall UN forces, the Australian contribution was significant and highly regarded. It became a major factor in defining the nation's place in the postwar world, confirming it as an active member of the UN and binding it more closely to its powerful USA ally. The ANZUS Treaty was an important component. **Keith Howard**

See also: Army; Vietnam War
Further reading: P. Dennis and J. Grey (eds), *The Korean War 1950–53: a fifty year retrospective: The Chief of Army's Military History Conference, 2000* (2000); B. Evans, *Out in the cold: Australia's involvement in the Korean War, 1950–53* (2000)

Kununurra, promoted as the eastern gateway to the Kimberley, is situated amid wetlands and irrigation areas to the north of Lake Argyle. Its name is a variation of Mary Durack's spelling of the Miriwoong word *gananoorrang* (river). Her spelling is used for the local black soil (Cununurra clay), but postal authorities wanted Kununurra for the town to avoid confusion with places in the eastern states. Built on land resumed from Ivanhoe Station, Kununurra was declared open in 1961. Its establishment, as part of Stage One of the Ord River Irrigation Project, provided facilities for the people who built the Diversion Dam. When they finished work in 1963, their quarters and mess became the Ord River Sports Club. Much later the premises became the Country Club Hotel. Some of Kununurra's business proprietors built their own premises. Construction costs were high enough for one group to pack six empty soft-drink cans into each locally made concrete block. Many of the early structures have since been demolished or incorporated into larger premises. Today, Kununurra's economy owes much to the presence of agriculture and tourism associated with Lake Argyle, which was created in 1972. It has usurped Wyndham's role as the East Kimberley's leading town and, with a population of approximately 6,000 in 2006, it serves farmers, tourists, Aboriginal communities and mining companies. **Cathie Clement**

See also: Kimberley; Ord River scheme
Further reading: B. Shaw, *When the dust come in between: Aboriginal viewpoints in the East Kimberley prior to 1982* (1992); N. Wainwright and K. Wright, *Kununurra: from dreams to reality* (2006); B. Withers, *Frontier dreaming: a light hearted look at the birth of a Kimberley frontier town* (1997)

Kurirr Kurirr ceremony The Kurirr Kurirr is an Indigenous ceremony of the East Kimberley region of Western Australia, made famous by its connection with the distinctive Warmun Community artwork of the 1980s and beyond. The Kurirr Kurirr is particularly associated with the artwork of Rover Thomas and Paddy Jaminji.

The Kurirr Kurirr is an example of the 'open' or 'everyday' ceremonies known in the Kija language as palka. These take varied forms. Akerman characterises the Kurirr Kurirr as a 'narrative dance cycle'.

The Kurirr Kurirr was 'found' by Rover Thomas in 1975, coming to him over time in dreams. The revealed narrative tells of the spirit of an old woman returning to her own country from her place of death, along the way visiting many places rich with religious and historical significance to the region's Indigenous people.

The Kurirr Kurirr was first performed at Warmun in the late 1970s. It was brought to Perth in 1983 in conjunction with the Aboriginal Arts Festival, and later taken to other places. The Kurirr Kurirr retained its popularity in Warmun for much of the 1980s.

Paintings associated with the Kurirr Kurirr have featured prominently in major exhibitions and collection catalogues. An exclusively focused Kurirr Kurirr exhibition (Dreaming the Dreaming) was mounted for the 2004 Perth International Arts Festival. **Will Christensen**

See also: Aboriginal art, Indigenous perspectives; Massacre paintings
Further reading: K. Akerman, 'The art of the Kurirr-Kurirr ceremony', in L. Taylor (ed.), *Painting the Land Story* (1999); W. Christensen, 'Paddy Jaminji and the *Gurirr Gurirr*' in J. Ryan with K. Akerman (eds), *Images of power: Aboriginal art of the Kimberley* (1993); J. E. Stanton, *Painting the country: contemporary Aboriginal art from the Kimberley region, Western Australia* (1989); R. Thomas with K. Akerman, M. Macha, W. Christensen and W. Caruana, *Roads cross: the paintings of Rover Thomas* (1994)

Kwinana The town of Kwinana is located 40 kilometres south of Perth, separated by a limestone ridge and green belt from heavy industry on Cockburn Sound. House-building began in 1953 because the Anglo-Iranian Oil Company (subsequently British Petroleum) required of the state government a residential area close to its new refinery. Planner Margaret Feilman designed Kwinana as a New Town community with four neighbourhood units—Medina, Calista, Orelia, Parmelia—linked by Kwinana Town Centre, with extensive open space, roads designed to avoid through-traffic, local amenities and native trees, chiefly tuarts. At the time Kwinana was acclaimed as Australia's most completely planned town and a test case for modern planning. Kwinana's name and those of the neighbourhood units all refer to ships important in Western Australia's history, a remnant of the wreck of the SS *Kwinana* forming part of the jetty at Kwinana Beach.

Among the earliest of the State Housing Commission's postwar developments, Kwinana's housing was initially designed to meet Anglo-Iranian's requirements—superior brick houses for senior staff, superior timber-framed fibro houses for skilled and semi-skilled workers, and basic timber-framed fibros for unskilled workers. Standard Commission designs were assigned to each category. In this way the new urban landscape mapped class and status differences among residents. Kwinana's new residents understood the distinctions made by this residential segregation, many disliking them and moving out of the town as soon as they were financially able to do so. Instead of the planned residential stability, the town experienced high mobility in these early years.

The industrial area grew slowly, and by 1971 the town had still not reached half the initial planning goal of 30,000 people. The

Housing Commission began flat-building and directed greater numbers of disadvantaged people into the town, consolidating the end of Kwinana's old social relations although the town's residents, including a large proportion of British-born, continued to work in adjacent industries. The State Ministry of Housing's urban renewal project, New Living, begun in 1995 with the aim of transforming localities disadvantaged by postwar housing stock and stigmatised as Housing Commission suburbs, has reduced Kwinana's component of rental public housing and refurbished the remainder, increased home ownership and improved the urban environment. 'New Kwinana', with a population in 2006 of 20,812 residents, now announces itself as a developing urban community set in bushland close to the coast, in some ways at least a renewal of planner Margaret Feilman's original vision. **Lenore Layman**

See also: Housing; Public housing; Suburban development; Town planning

Further reading: S. Brown, 'Surveying our past and building our future: an environmental history of an Australian suburb', *Limina*, 13 (2007)

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Labour culture In the narrower sense, 'labour culture' refers to tangible artifacts (songs, banners, posters and the like) produced by working people. More broadly, it refers to the 'way of life' in which these artifacts are embedded. Labour culture—like 'popular culture'—is distinct from 'high culture'. It is a culture of ordinary people, rather than elites. It celebrates work, rather than simply economic progress as an aim in itself, and asserts the value of the individual worker, and worker collectivities and solidarity. While labour culture includes 'working class culture' and 'union culture', it is more expansive, including non-unionised sections of the workforce and volunteer work. It must be stressed that culture in general (and labour culture is no different) is not a homogeneous entity. It is simultaneously about shared *and* contested meanings and interests.

In the nineteenth century, outside the formal, male-dominated labour movement there was a rich network of organisations with cultural traditions of their own. 'Friendly societies' provided sickness and funeral benefits to workers prior to the creation of state welfare systems. Mechanics' institutes provided a focus for cultural activity such as small libraries, leisure activities such as billiards, and regular lectures. Such institutions created an environment where working people could pursue common interests, and hence a 'common culture'. Male-dominated sporting clubs and competitions also fostered labour culture, building bonds of mateship as well as a sense of community identity and pride.

In addition there were politically based and/or feminist organisations, often with membership overlaps with the formal union movement (and with each other). The first political party was established in 1899, known until 1919 as the Australian Labor Federation (ALF), and comprised the Labor Party and affiliated unions. There were separate women's political groups with informal links to the ALF, such as the Eastern Goldfields' Women's Labor League, founded in 1906, which campaigned for women's improved working conditions, health issues, public facilities, and social justice issues such as peace. In the 1930s and 1940s the Labor Women's Organisation and the Union of Australian Women (UAW), based in Perth, took up the cudgels on many issues. The UAW spearheaded a 'ban the bomb' campaign in the Cold War climate of the mid 1950s, walking the streets of Perth in lunch hours wearing scarfs and aprons with their messages. Women often exhibited dual militancy, campaigning within 'mainstream' organisations but also separately in women's-only groups.

Communist Party of Australia (CPA) members created a number of culturally based organisations, especially in the 1930s and 1940s. The Workers' Art Guild, established in 1934 under the guidance of author Katharine Susannah Prichard, staged plays and fostered writing and the visual arts. The Guild folded when the Communist Party was banned in 1940, and was replaced by the New Theatre, active between 1948 and 1954. Thus labour culture was often ephemeral, burning brightly for a short time and then being replaced by new formations. It was also highly networked, composed of multiple organisations with small, overlapping memberships that reached out to

produce dissident and critical performances and other art forms for the general public.

Collective demonstrations and marches are an important feature of labour culture. One of the most notable and regular examples is the celebration of a workers' holiday each year: Eight Hour Day marches, which later became Labour Day and then May Day celebrations, celebrated on the closest Sunday to 1 May. This day expresses the struggles of the union movement and associated groups. Other notable events include the six-month-long occupation in 1997 of a piece of ground opposite Parliament House, by unionists and other supporters, as part of 'the Third Wave Campaign', to protest against new industrial relations laws. It is today gazetted as 'Solidarity Park' and protected under state heritage legislation.

Another significant cultural expression is the creation of banners, symbols of identity and pride, which trace the development of union (and labour) culture. There are 'three generations' of Western Australian banners. Nineteenth-century banners demonstrate the pride in craft traditions, such as the still-extant banner of the Eastern Goldfields Amalgamated Tailors' and Tailoresses' Society. This shows a male cutter and a female machinist at work, and on its reverse side the iconic symbol of the clasped hands, a common way of depicting solidarity. The banners of the 1930s—influenced by the growth of radical political movements—illustrate a utopian social future, whereas more recent banners deal with the diversity of the labour movement, the defence and improvement of current working conditions, and the growing importance of work and family issues. There are many other artifacts of union culture—murals, pennants, certificates, protest badges, placards, stickers, flyers, trophies, union badges and membership cards.

Union newspapers and journals have reflected and created labour culture. The *Westralian Worker*, established in Kalgoorlie in 1900, moved to Perth in 1912. It was the main official organ for labour in the state for half a century. The *Civil Service Journal* was established in 1903 and has been in continuous existence since. These and other journals played, and still play, important roles in communicating information to members, both in the more narrow industrial sense, and also in the broader political and social sense. Their stories and cartoons have played a vital role in entertaining workers and mocking the activities and decisions of employers, governments and, on occasions, industrial tribunals.

Buildings and memorials play a role in preserving and expressing labour culture. Kalgoorlie's Trades Hall, built in 1900 and restored in 1993, was the first trades hall built in WA. The Memorial Fountain to Tom Edwards, erected in 1920 in Fremantle, commemorates the death of a waterside worker fatally injured by a police baton in a demonstration on the wharves.

The Art and Working Life movement of the 1970s, 1980s and early 1990s defined and elaborated a contemporary form of labour culture. Much project work, banner making and the like occurred, funded by unions and governments. For most of this period, the Trades and Labour Council had an Arts Officer, who stimulated projects such as the book *Organise!*

Local workplace cultures are an important aspect of labour culture. The culture of the Midland Railway Workshops, which employed more than 3,200 people in their heyday, is illustrative. In some cases four generations of a family worked there. It had strong craft-based cultures among its workers, its own ceremonies, notable characters, and important locations such as the central square, where 'Flagpole Meetings' were held. Closed in 1994 and now undergoing redevelopment, labour culture lingers on, memorialising and celebrating the past as well as looking to the future. The Pilbara has been a site of economic development and at times a site of struggle over pay and working conditions, from the pastoral workers' strike

of 1946 to the establishment of the iron ore industry in the 1960s. The story of the 'way of life/way of struggle' of Pilbara mining workers—particularly over the late 1990s and early 2000s—is a story of labour culture in action. Systematic studies of labour culture in female-dominated workplaces in WA are more rare.

Often the names of makers of labour culture do not survive, as products and groups may be ephemeral, and as the production of labour culture is often a group effort, not the result of single professional artists working alone. The history of labour culture needs to be traced painstakingly, through the histories of women's organisations, Indigenous groups, multicultural organisations, unions, political parties and social movement formations. **Janis Bailey**

See also: Aboriginal labour; Australian Labor Party; Communist Party; Mechanics' institutes; Pilbara strike; Theatres, buildings; Trades and Labour Council; *Westralian Worker*; Work, paid; Workers; Workers' Art Guild
Further reading: J. Bailey, 'Blue singlets and broccoli: culture in the service of union struggle', *Labour history*, 79 (2000); L. Layman and J. Goddard, *Organise! A visual record of the labour movement in Western Australia* (1988)

Lacrosse in Western Australia can be traced back to the 1890s and the influence of Canadians venturing to the goldfields in search of a fortune. Perth and Fremantle clubs were formed in 1896 and a competitive league commenced in 1898 with the addition of two more clubs, Cottesloe and Mercantile. The teams in 1907 were Fremantle, East Fremantle, Swans, Perth, Banks and North Perth, with junior teams from Claremont and the Iroquois based in Midland. In 2004 the local teams were Subiaco, Wembley, East Fremantle, Bayswater, Wanneroo and Phoenix. Over the past fifty years several clubs have either

merged or been forced to disperse, mainly due to a lack of membership.

WA won its first championship in 1947 then had to wait another twenty-five years to win again. An Australian team, which toured the US in 1962, included an official and three players from WA, one of whom, Brian Griffin, was later acclaimed one of the greatest ever exponents of the game. Griffin is the only lacrosse player to be named the Western Australian Sportsman of the Year (1967) and is included in the WA Sports Hall of Champions. Since the Second World War the numerical club and player strengths have been static, despite a development program in schools. A highlight of lacrosse history in WA was the hosting of the World Series in Perth in 1990. In 2002 WA again hosted the World Series, which had expanded from five nations in 1990 to sixteen in 2002. **Doug George**

See also: Hall of Champions

Land clearing was an integral part of agricultural and urban development from European settlement onwards. However, land clearing is no longer widely accepted as such a necessary or appropriate activity.

During the twentieth century both state and federal governments expanded agricultural areas by actively promoting large-scale land clearing, through conditional purchase, group and war service settlement programs. The area of land allocated for clearing peaked at over one million hectares in 1928, the year before the Great Depression began. Up to this time the main focus was on the woodland soils of the central and northern Wheatbelt, and smaller pockets of land in the forest areas, with settlers bypassing the extensive tracts of light sandy soils with low mallee and heath vegetation. Cutting with axes and saws, followed by burning, was the main method. The scale and impact of clearing in this period were such that significant degradation following clearing, particularly

the salinisation of land and water, was well documented through both scientific papers and Royal Commissions.

In the 1950s the advent of heavy machinery, such as bulldozers and heavy chains, coincided with strong commodity prices, favourable seasons and the introduction of trace element fertilisers. From 1948 to 1969 at least 300,000 hectares of public land was allocated to agriculture each year, with over twice this amount allocated in some years. Land clearing accelerated drastically, with less consideration being given to the agricultural suitability of the soil types or the retention of individual trees and shelter belts. Many farms were created on infertile sandy soils in areas bypassed in earlier decades, such as the Midlands, the south coast, the higher ridges in the Wheatbelt and the laterised white gum soils. As Ongerup farmer Kaye Vaux recalled in the film *A Million Acres a Year,* 'We were getting everything bulldozed down…in those days it was all go go and take everything'.

By the 1970s awareness was increasing of adverse impacts such as the salinity and wind erosion that follow land clearing. A gradual introduction of legislative restrictions on clearing commenced. In 1976 and 1978 strict controls were introduced over some South-West water supply catchments. In 1982 the state government ceased large conditional-purchase land allocations and from 1986 farmers were required to notify the Commissioner for Soil and Land Conservation of their intention to clear, which provided the Commissioner with an opportunity to prevent the clearing if it was considered likely to cause land degradation. Broader environmental assessment of agricultural clearing proposals, to include water quality and biodiversity issues, commenced in the mid 1990s with stronger controls, under the *Environmental Protection Act*, passed by state parliament in 2003. These regulations came into effect in July 2004 and cover the full range of mining, agricultural, infrastructure and other proposals to clear.

In 1988–89 over 60,000 hectares was legally cleared in agricultural areas, but this dropped to below 1,500 hectares per year from 1997–98 onwards. As landcare grew in the same period, many farmers voluntarily protected bush remnants on their properties and undertook revegetation work. Even so, by the 1990s the effects of land degradation, such as salinity, had passed mechanical land clearing as the major cause of vegetation loss in rural areas.

From 1998 onwards the main drivers of native vegetation clearing in WA were urban expansion in the South-West and mining activity in the rest of the state. Some additional clearing occurs on pastoral properties, through diversification into horticultural and other pursuits. In the future, significant land clearing in the north of the state is possible as a result of large developments, such as the proposed Phase 2 Ord Irrigation Scheme.
Keith Bradby

See also: Agriculture; Conservation and environmentalism; Environment; Erosion; Land settlement schemes; Landcare; Marginal areas; Nyungar land clearing; Ord River scheme; Salinity; Wheat; Wheatbelt
Further reading: Environmental Protection Authority, *State of the environment report, Western Australia* (2006); R. Jasper, 'An historical perspective', in *Diversity or dust* (1984); Native Vegetation Working Group, *Final report of the Native Vegetation Working Group* (2000); Government of Western Australia, *Hope for the future: the Western Australian state sustainability strategy: a vision for quality of life in Western Australia* (2003)

Land settlement schemes were sponsored by the Western Australian government in the South-West of the state in the early twentieth century. There were more than a dozen, including soldier settlement, group settlement and various schemes for unemployed workers. All owed much to Sir John Forrest's

dream of settling a bold yeomanry on the land. He revised the land regulations in 1887 to encourage new settlement and, following the Commission into Agriculture's 1891 report, oversaw the passage of the *Homesteads Act* (1893), under which free grants of 160 acres of crown land were given to settlers, on condition that improvements would be made within seven years. The *Agricultural Bank Act 1894*, under which generous loans were to be given to farmers, followed. It was the first agricultural bank in Australia.

Initially the emphasis was on wheat growing. In 1909 James Mitchell, MLA for Northam, was appointed Minister for Lands and Agriculture. With customary energy, he pushed the limits of the Wheatbelt steadily eastwards from Meckering, its accepted eastern boundary. The rapid extension of railways into wheat districts assisted development, but settlement was not rapid and it stagnated during the First World War. The 1917 Royal Commission into Agriculture expressed concern that settlers had not been attracted from other parts of the world and argued for further expansion. In 1919 a soldier settlement scheme was established and land in the Wheatbelt was released for over five thousand returned soldiers. While the scheme was ultimately a financial disaster, especially after the collapse of wheat prices in the late 1920s, the amount of land under crop increased dramatically, as did wheat exports.

The Group Settlement Scheme, which is said to have been the brainchild of 'Moo Cow' Mitchell, concentrated on developing a dairying industry in the South-West. The scheme began in 1921 in Manjimup, but soon merged with a larger British program promoting the emigration of unemployed returned soldiers to farm 'empty lands' throughout the Empire. It was expanded in 1923 when the Commonwealth and the Australian states signed agreements with the British government: the WA government was to receive £1,000 per prospective farmer on the proviso that it allocated land for 6,000

men. The scheme was premised on the persistent belief that tall timber signified fertile soils. Group settlements were established throughout the South-West. The difficulties that the 'groupies' encountered included poor estimation of the time and labour required to clear land, the cost of fertilisers, lack of reliable transport, lack of a market for milk, and dearth of capital. They lacked farming experience and had insufficient training, ploughing soils too deeply and managing stock poorly. Overall the scheme was inadequately planned and resourced, and although not ceasing until government support was withdrawn in 1930, a Royal Commission had already declared it a failure in 1925.

Despite the immense difficulties encountered by the first attempt at group settlement in the region, the government instituted a similar scheme twenty years later to accommodate soldiers returning from the Second World War. The War Service Land Settlement Scheme ran from 1945 and concluded purchasing property in 1952, although Crown land was still developed until the formal closure of the scheme in 1963. Like its predecessor, this new scheme was given an optimistic outlook with strong support from the government; unlike the first scheme, farms were initially established on land that had already been cleared and were regarded as suitable for agricultural pursuits. Farmers were also allocated larger land holdings (200 acres) and were provided with higher quality housing—prefabricated asbestos houses of 900 square feet—than the first scheme. Many abandoned 'groupie' (group settlement) properties were amalgamated and became part of this second scheme, as the government attempted to re-establish a strong dairy industry in the South-West. Tobacco farming was also trialled at Karridale and Manjimup as part of this second scheme. Despite an optimistic outlook and the belief that with careful review and planning the problems associated with the first group settlement scheme could be avoided, the

second scheme also suffered very similar difficulties.

While government-directed attempts at land settlement did open up farming land, increase immigration, facilitate the development of new townships and aid improvements in transport and communications, they achieved mixed success in establishing viable industries. Wheat growing was successful in the long run, although the environmental costs are still being counted. The successful establishment of a dairy industry in the South-West was more elusive. Many of those who participated in the schemes suffered great hardship. **Dale Sanders**

See also: Agriculture; Dairying; English immigrants; Environment; Group settlement; Land clearing; Marginal areas; Migration; Peel Estate scheme; Repatriation; Salinity; South-West; Wheat; Wheatbelt; Women on farms
Further reading: J. P. Gabbedy, *Group settlement. Part 1. Its origins: politics and administration* (1988); J. P. Gabbedy, *Group settlement. Part 2. Its people, their life and times: an inside view* (1988); A. R. Barrett, *History of the War Service Land Settlement Scheme, Western Australia* (1965)

Landcare was a movement which grew out of the concern of land managers for the health of their land and the sustainability of their farming businesses. Land degradation, a process that diminishes the future use of the land, was defined under the state's *Soil Conservation Act 1945*. From 1982, land and water salinity were recognised as part of this process, and by the end of the 1980s the need to work at landcare on small-scale programs defined by watersheds was recognised as important to the critical process of mitigating salinity. The Australian government declared the 1990s the Decade of Landcare, pledging $320 million. The Decade of Landcare Plan integrated actions addressing land degradation from community to all tiers of government. In

1992 the National Landcare Program (NLP) brought together several existing programs. It comprised three components: community (providing funding to and empowering community groups to manage natural resources); national (federal government natural resource management activities); and the Commonwealth/state government (developing partnership agreements and broad strategic frameworks). By the beginning of the Decade of Landcare, many land managers were working together across farm boundaries and catchment groups were forming. The focus of interest of land manager and urban community groups encompassed all areas of natural resource management, including remnant vegetation protection, rivers, wetlands, coastal and marine assets. However, the hope that, in just ten short years, the massive land degradation problems could be reversed was not met.

The 1996 State Salinity Action Plan and 2000 State Salinity Strategy acknowledged the extent and seriousness of salinity, and for the first time state government agencies committed to working together. By the early years of the twenty-first century, significant state and Commonwealth funding was provided through Regional Catchment Councils for works of regional significance, relevant at a local scale. The state of Western Australia is presently covered by six catchment councils—Swan, Avon, Northern Agricultural, South-West, South Coast and Rangelands—each with its own integrated regional Natural Resource Management Plan. **Monica Durcan**

See also: Conservation and environmentalism; Environment; Salinity; Sustainability
Further reading: A. J. Conacher and J. Conacher, *Environmental planning and management in Australia* (2000); Agriculture Western Australia et al., *Western Australian salinity action plan* (1996); Government of Western Australia, State Salinity Council and Regional Natural Resource Management (NRM) Groups, *Natural resource management*

in Western Australia: the salinity strategy: building the future (2000); Western Australia Department of Environment, *Salinity investment framework interim report–phase 1* (2003)

Languages of migration and settlement
The languages of the earliest European explorers can be found in place names around Western Australia, mostly from proper names but some common nouns, e.g. Rottnest, originally *Rottenest*, and Swan River, translated from *Swane rivier* (Dutch), Sable Island and Useless Loop, translated from *Havre Inutile* (French). From the late nineteenth century to the Second World War, communities of migration and settlement using various languages grew up in different parts of the state: e.g. the Chinese in Broome, who spoke mostly Cantonese and Hokkien. The multicultural workforce of the goldfields included languages from southern Europe—Italian, Greek and Yugoslav languages—and Pushtu and Dari among the Afghan cameleers. These early language communities have left little trace.

The major influx of languages came after the Second World War, mostly European until the 1970s and Asian thereafter. In the first census language question (1976), WA had a similar language profile to other states, but by 2001 each state had developed its own distinctive profile. Despite having the highest overseas-born population of all states (27 per cent), WA is below the national average of non-English language use in the home (13.8 per cent versus 16 per cent). Italian is by far the most widely spoken language, but Cantonese, Vietnamese, Mandarin and Indonesian all have more speakers than the next European language, Croatian. Perth is the only capital city where Greek is not among the top ten languages. Nearly half of all Australian speakers of Burmese and of Malay live in WA. Language use is different in Perth and the rest of the state: 14.2 per cent of the population of Perth speaks a language other than English (less than Sydney, Melbourne and Adelaide), but for non-metropolitan WA the figure is 5.5 per cent (highest except the Northern Territory and, like NT, mostly Aboriginal languages).

European languages of high culture—Latin and Greek, French and German—were always taught in WA high schools. In the 1970s 'community languages' appeared in primary and secondary schools, and also in ethnic schools financed by overseas governments and the state government. In the 1990s priority shifted from languages of migrants to languages for trade, and policies were adopted making the study of a language other than English compulsory in all schools from Years 3 to 10. The language and culture of certain countries are promoted by associations, and some are funded by home countries, e.g. Chung Wah Association, Alliance Française, Goethe Society, Dante Alighieri Society. **John J. Kinder**

See also: Aboriginal languages; Migrant ethnic associations; Migration; Multicultural writing; Multiculturalism
Further reading: G. Leitner, *Australia's many voices: Australian English–the national language* (2004); S. Romaine (ed.), *Language in Australia* (1991)

Laves linguistic collection The Laves collection consists of thousands of pages of handwritten notes and a few wax recordings made by American postgraduate student Gerhardt Laves (1906–1993) in his 1929–31 field research documenting Australian Indigenous languages. The high quality of his work stands out; he was the first researcher trained in modern linguistic methods to document Australian languages.

Three of his six major studies were conducted in WA: Karajarri at La Grange; Bardi at Cape Leveque peninsula; and southern dialects of Nyoongar in the Albany region.

For each language there are numerous texts, mostly traditional stories, and slips with vocabulary and grammar notes. There are also some ethnographic notes, including genealogies and descriptions of traditional cultural practices. Laves made eleven wax cylinder recordings of Karajarri songs, stories and other speech, some of the earliest audio recordings of an Australian language. The field notes remained with Laves, unused and largely unknown, until the mid 1980s when they were deposited in the AIATSIS library in Canberra. They have since been used extensively in current language research, though the content is often not straightforwardly accessible due to deterioration of some pages and Laves' frequent use of insufficiently documented non-standard symbols. The Nyoongar notes are particularly valuable because of the significant loss of language knowledge in the area, and may play an important role in language revitalisation. **John Henderson**

See also: Aboriginal languages; Anthropology

Further reading: D. Nash, 'Gerhardt Laves, Obituary', *Australian Aboriginal Studies*, 1 (1993)

Law in Western Australia was founded on the English common law tradition, in which judges, sometimes assisted by a jury, heard arguments in civil and criminal cases and decided between plaintiff and defendant. When Lieutenant-Governor James Stirling proclaimed the establishment of the colony of WA on 18 June 1829, he declared that 'The Laws of the United Kingdom…do therein immediately prevail'. Following English practice, in December 1829 he appointed eight justices of the peace to act as honorary magistrates.

In 1830 William Mackie was appointed a salaried Chairman of Quarter Sessions, holding Courts of Petty Sessions at Perth, Fremantle and Guildford and four sessions annually for important criminal charges. Trial by jury was authorised. Appointed Governor in 1831, Stirling created a Civil Court with George Fletcher Moore as Commissioner to operate in tandem with the Court of Quarter Sessions. In 1834 the Colonial Office insisted that Mackie should preside over both courts and Moore became Advocate-General, his duties including legislative drafting and acting as Crown Prosecutor. The foundation of the legal system was crowned in 1837 with the construction of a courthouse (now the Francis Burt Law Education Centre, located east of the present Supreme Court building), which doubled for some years as the Anglican church.

After 1850 the colony and its social problems grew with convict transportation. Mackie and Moore's successors were lesser men, and in 1860 the Colonial Office appointed Archibald Burt, an experienced lawyer from the West Indies, to preside over both Courts. In 1861 an Ordinance was passed establishing the Supreme Court of Western Australia with the same powers in criminal law, common law and equity as the judiciary in England. Burt served as Chief Justice until his death in 1879. In the rural districts of WA, Government Residents exercised legal authority.

Increasing business prompted the passing of the *Supreme Court of Western Australia Act* of 1880, providing for the appointment of one or more puisne judges and for the Chief Justice and such other judges to constitute a Full Court. The first puisne judge was the locally born and qualified Edward Stone. The Act of 1880 also followed recent English legislation in fusing the common law and equity systems of justice. In the same year the Supreme Court heard its first divorce case, although it had been empowered to hear matrimonial causes since 1863. The second Chief Justice, Henry Wrenfordsley, established a Barristers Board in 1881 to assist in the admission and disciplining of legal practitioners. That body was the direct ancestor of the twenty-first-century Legal Practice Board.

During the late 1880s the Supreme Court's standing was a little compromised by Chief Justice Alexander Onslow's involvement in political disputes, but with the coming of self-government in 1890, controversy ceased. The appointment of a third judge in 1892 and a fourth in 1901 reflected the pressures resulting from the great expansion of the pastoral and mining industries. Complex mining legislation added considerably to the Supreme Court's activities. The judges regularly went on circuit to the larger country centres. At the level of ordinary citizens, mining wardens and honorary justices of the peace administered justice.

Practice and facilities were upgraded. In 1898 the publication of Supreme Court reports began, and in 1902 a consolidated Criminal Code was adopted. Drafted by Crown Solicitor William Sayer, the Code was based upon Sir Samuel Griffith's Queensland Code of 1899 and gave WA a more systematic legal system than other states depending on accumulated judgements in the common law. In 1913 the passage of the *Criminal Code Act* improved the situation further. The completion of the Supreme Court building in 1903 temporarily solved a persistent problem with accommodation.

From 1903 the Western Australian Supreme Court shared jurisdiction with the newly created High Court of Australia. At first the Supreme Court retained the right of direct appeal to the judicial committee of the Privy Council in London, but in 1907 such appeals were admitted only after a hearing in the High Court. Subordinate jurisdictions in WA included the appointment of stipendiary magistrates and the creation in 1911 of a specialised Children's Court.

Sixty years of relative stability followed for the Western Australian legal system. Women were admitted to practice before the Supreme Court in 1923 after an unsuccessful application in 1904. The University of Western Australia established a School of Law in 1927, its first professor, F. R. Beasley, serving until 1963 and creating a tradition of sound common law interpretation. Faculties of Law have been established at Murdoch University, the University of Notre Dame Australia and Edith Cowan University.

In 1927 the Law Society of Western Australia was founded with Sir Walter James as its first president. Rejuvenated during the 1960s under the leadership of Francis Burt (later Chief Justice) and Sheila McClemans, the Law Society set up a subcommittee, which formed the basis of a Law Reform Committee created by the state government in 1967. This in turn was replaced in 1972 by an autonomous permanent statutory body, the Law Reform Commission, with the duty of providing independent advice on law reform initiatives.

Following the rapid postwar expansion of Western Australia's population and the mineral boom of the 1960s, pressure on the judicial system accelerated. Remedies were sought in the establishment of a Third Party Claims Tribunal between 1966 and 1970. Its duties were incorporated in the District Court of Western Australia, which came into being in 1970, followed by the Family Court of Western Australia in 1976. The Federal Court of Australia also sits in Perth.

By 2006 the Supreme Court of Western Australia had expanded to include a Chief Justice (Wayne Stewart Martin), nineteen Judges, two Masters and a Principal Registrar and eight Registrars. The District Court Bench now numbers twenty-five. In 2005 a six-member Court of Appeal came into operation. In 2004 agreement was reached on the construction of a new Court building to house the District Court and the Criminal section of the Supreme Court, leaving the remainder of the Supreme Court jurisdiction in its existing building. **Geraldine Byrne**

See also: Aboriginal Legal Service; Aboriginal legislation; Abortion; Capital punishment; Courts of Native Affairs; Deaths in custody; Equal opportunity legislation; Gay and lesbian

law reform; Imprisonment; Jury service; Legal aid; Legal profession; Marriage and divorce; Murders; Police and policing; Royal Commissions; Royal Commissions and Inquiries, Indigenous

Further reading: G. C. Bolton and G. Byrne, *May it please Your Honour: a history of the Supreme Court of Western Australia, 1861–2005* (2005); E. Russell, *A history of the law in Western Australia and its development from 1829 to 1979* (1980)

Lawn bowls in Western Australia had its origins in the decade following the discovery of gold in the colony. The Perth and Fremantle bowling clubs were formed in 1896 and the Swan Bowling Club in Guildford in 1897. In October 1898 the clubs formed the Western Australian Bowling Association (WABA), with Thomas B. Jackson the first president. The new sport's players were drawn from professional and business groups, and their social prestige and political influence gave the sport an impact far beyond its numbers. The sport continued to prosper and by 1908 there were twenty-three registered clubs, including seven country clubs, and 823 registered bowlers.

Lawn bowls was originally a male sport. By the 1920s, though, women were beginning to take an active part, and in 1935, with Agnes Yates as foundation president, they formed the Western Australian Ladies Bowling Association (WALBA), which became the state administrative body for women bowlers. Nevertheless, they continued to bowl in existing bowling venues as associates.

The decades after the Second World War were a period of unprecedented growth in the sport. Between 1945 and 1963 the number of bowling clubs trebled to 145, with 64 country clubs. By 1963 there were 15,465 registered male bowlers and 10,319 women players in WA. That year too, WABA was given royal patronage and became the Royal Western Australian Bowling Association (RWABA).

Bowling clubs often became the focus of social life in local communities, both in the city and country, despite difficulties caused by distance. Bowls also began to take its place on the national and international stage, and was part of the Empire games staged in Perth in 1962, with the Dalkeith Bowling Club hosting players from around the world.

Osborne Park bowler Branko Katunarich was the first WA player to play for Australia with a visit to South Africa in 1964. Since then, national representatives from among WA male bowlers have included Frank Perry, Frank Harrison, Geoff Oakley, Bert Sharp, Ron Taylor, Steve Srhoy, Dennis Katunarich (with over two hundred games played for Australia), Robbie Ball, John Rainoldi, Stuart Davies and Peter Sardelic. Edna Cheffins was the first WA woman bowler to represent Australia in 1967; others have included E. Webb, Olive Rowe, Mary Underwood, Connie Hicks, Beryl Godfrey, Norma Wainwright, Lee Polletti and Roma Dunn, another of the state's best-known players. Connie Hicks is the only bowler in the WA Hall of Champions.

By the beginning of the new century WA had 232 bowling clubs. The RWABA and the WALBA had joined to become Bowls WA, with women now having equal status as members in bowling clubs. With 20,500 registered members, the new association is responsible for the administration of bowls at all levels throughout the state. **Neville S. Faulkner**

See also: Hall of Champions
Further reading: G. McDonald with W. S. Cooper and J. R. Hall, *Bowls West: a centenary history of the Royal West Australian Bowling Association, 1898–1998* (1998)

Learning centres, sometimes known as community or neighbourhood centres or houses, are community-based learning exchanges. They offer highly diverse informal

education that reflects the needs and interests of the local community. While it is difficult to generalise, popular courses include personal development, computing, sport, cooking, language tuition and various crafts. Community building is both an aim and a product of the educational focus. There is no one model, although crèches are integral so that parents with young children can participate.

Initially the movement was for women, but broadened to include men. Most centres receive either some state or local government assistance. The majority rely heavily on volunteerism, especially for tutoring as this is the essence of the skill sharing and the idea of the community base which underpins the concept. Learning centres were introduced to WA in 1977 by Gwen Wesson, lecturer in Urban Education from La Trobe University in Melbourne. Meetings and workshops followed her talks, and by late 1977 a centre was established in Kalamunda. Six more centres started in 1978: Mount Lawley, Leederville, Mundaring, Cannington, Nedlands and Geraldton. The number, geographical distribution and variety of centres grew quickly. An umbrella organisation, Learning Centre Link, was established in 1982. In 1989 there were sixty-one centres, and by 2006 the number had grown to seventy-five, which included both metropolitan centres and country centres ranging from Wyndham to Albany. **Jean Chetkovich**

See also: Book groups; Libraries; Volunteers
Further reading: *Bringing in the blokes: a guide to attracting and involving men in community, neighbour and learning centres* (2002); *Learning centres in W.A.* (1989)

Legal aid Until about 1950 there was no formal arrangement for free legal services in Western Australia. Some private solicitors provided free (pro bono) or reduced-fee service for clients depending on their circumstances.

In the 1950s the Law Society of WA began to assist by putting pro bono lawyers in touch with people who could not afford legal assistance. The Law Society later formalised the process by employing staff to refer people to pro bono lawyers.

In 1974 the Commonwealth government, led by Prime Minister Gough Whitlam, established the first Australian Legal Aid Office (ALAO) in Fremantle and later in Perth and Midland. The purpose of the ALAO was to help war veterans and other people who had Commonwealth law issues. In 1978 the Law Society's pro bono service and the ALAO were combined through a joint initiative of state and federal governments. The Legal Aid Commission of Western Australia, the first of its kind in the country, was created as an independent, statutory body, although answerable to the Attorney General under the *Legal Aid Commission Act 1976* (WA). The inaugural Director of Legal Aid was Mr (now Supreme Court of WA Justice, His Honour) Len Roberts-Smith.

The Legal Aid Commission was designed to provide a range of free services centring on casework, duty lawyer, legal advice and community legal education. In 1985 the Commission established regional offices in Broome and Bunbury. In 1995 it was renamed Legal Aid WA (LAWA) and opened a Kalgoorlie office to service client needs in the goldfields and Esperance regions. Since then LAWA has developed cooperative liaisons with the Aboriginal Legal Service of WA, the numerous Community Legal Centres throughout the state and the private legal profession whose members represent clients on grants of legal aid, as well as providing pro bono services. **Colin James**

See also: Aboriginal Legal Service; Law; Legal profession
Further reading: M. Cass and J. S. Western, *Legal aid and legal need* (1980); Department of the Prime Minister and Cabinet, *Legal aid in Western Australia: state services study*

(1992); The Senate Legal and Constitutional References Committee, *Legal aid and access to justice* (2004)

Legal profession The legal profession has prospered in Western Australia since European settlement, interpreting a system based on English common law during a period of relative peace and population growth. The first lawyers were giants, both socially and administratively, in an alien land where isolation helped foster self-reliance and autonomy. The court system was established by 1832. Family names such Stone, Parker, Leake and particularly Burt (with two Chief Justices and an Attorney General of that name) have figured prominently in the profession. Before 1855 a Swan River Colony settler could open a legal practice by paying six pounds a year or less if he had legal qualifications. In 1865 a stagnant population base despite male convict labour (1850–68) provoked legislation to fuse the profession to enable lawyers to act both as solicitor and barrister. This 'amalgam' system endures with some variation in all Australian states except NSW and Queensland. The first locally trained WA lawyer, Edward Stone, was called to the bar in 1865. The 1893 *Legal Practitioners' Act* authorised a Barristers' Board to rule concerning admission for articled clerks (five years plus examinations), university law graduates (three years of articles), practitioners' conduct and legal costs.

Responsible government (1890), gold discoveries and Federation (1901) boosted population and encouraged law practices in country districts, particularly the Eastern Goldfields. Although lawyers retained social status, they never regained their earlier individual dominance.

In 1923 the *Women's Legal Status Act* made WA the last state to admit women to practice, two decades after Victoria. In 1928 a law school opened in The University of Western Australia. Murdoch University (1989) and the University of Notre Dame (1997) answered escalating demand to also offer law and combined degrees with articles reduced to one year. The Legal Practice Board (1993) has replaced the Barristers' Board and the *Legal Practice Act* (2004) replaces the *Legal Practitioners' Act* (1893). The WA Law Society (1927) represents lawyers' interests. In 1961–62 (Sir) Francis Burt and Terence Walsh founded the independent bar for those who wish to practise solely as barristers. In 1974, when WA had four lawyers per 10,000 people, the lowest ratio in Australia, federal and state-government-funded legal aid replaced an honorary scheme operating since the 1960s.

A WA resources boom begun during the 1960s and 1970s disturbed a comparatively comfortable, leisurely legal lifestyle. A desperate shortage of city lawyers helped decimate country practices and encouraged large Perth-based firms to merge to specialise in the more complex aspects of commercial law. International, multidisciplinary law firms, mainly based in Sydney and Melbourne, amalgamated with local practices to dominate the WA law scene. Legal names familiar for generations have disappeared. Time-sheet regimes for teams of solicitors characterise the working day of such enterprises. Exploding litigation levels cause court access delays. The number of practising lawyers has risen to 25 per 10,000 people with a ratio of 1.8 men to women. Most women lawyers choose to act as solicitors. The demand for general practices to advise individuals on matters ranging from conveyancing to divorce remains strong. **Suzanne Welborn**

See also: Aboriginal Legal Service; Law
Further reading: A. C. Castles, *An Australian legal history* (1982); J. Fall, 'Crime and criminal records in Western Australia 1830–1855', *Studies in WA History,* 3 (1978); E. Russell, *A history of the law in Western Australia and its development from 1829 to 1979* (1980); S. Welborn, *Sandgropers, solicitors & silks* (1998)

Liberal Party The WA Division of the Liberal Party was formed on 12 January 1945, reviving a name first used by organised conservative politics in 1905. This occurred as part of the Australia-wide creation of the Liberal Party initiated by Robert Menzies in 1944. Its conservative WA predecessor, the Nationalist Party, had been out of government since 1933, and with seven seats in Perth and the South-West it was the smallest of the three parties represented in the fifty-seat Legislative Assembly.

Unlike the Nationalists, the Liberal Party was to rely on an extensive local branch structure throughout the state, attracting many new members after 1945 including such young ex-servicemen as Charles Court (1911–2007) and David Brand (1912–1979), who, in October 1945 as the first state Liberal candidate, won a significant by-election in the Wheatbelt seat of Greenough. Brand had worked as a miner and storekeeper, bringing a relaxed and humane approach to politics that was later to make him the state's longest-serving premier.

At the 1947 state election the Liberal Party campaigned strongly against alleged socialist policies of the Australian Labor Party. It won enough seats both to end fourteen years of state government by the ALP and to become the majority partner in coalition with the Country Party.

In 1949 the Liberal Party merged into a new Liberal and Country League, along with some dissident Country Party branches. Although this move failed to unite the coalition parties, the title LCL was retained until 1968. Vigorous electoral competition led to uneasy relations with the Country Party, without preventing the formation of coalition governments.

With Pinjarra farmer Sir Ross McLarty (1891–1962) as premier, the Liberal and Country Parties held government until 1953, dealing with postwar shortages and laying the basis for industrial development at Kwinana. For the first time in Australia a woman was appointed to Cabinet: Dame Florence Cardell-Oliver (1876–1965) was WA Minister for Health and Shipping. Separate Women's Divisions had an influential role among the Liberal branches in an era when women were reluctant to seek election but were often active in political campaigning.

In Opposition after 1953, the Liberal Party strengthened its organisation by grouping branches on the basis of the WA federal electorates, with these divisions taking more responsibility for campaigning and fundraising. This decentralised model has remained in force. Professional staffs led by a General Secretary (later entitled State Director) were an important asset in contesting elections. Rather than merely allowing candidates to use the Party name on a 'franchise' basis, as occurred with the former Nationalist Party, the Liberal Party was able to support them at a local level. The party raised its own donations and was not dependent on funds from external business councils.

From 1949, with the election victory of Robert Menzies in the federal parliament, the Liberal Party in WA (with the Country Party until 1974) has won a majority of the WA federal seats in fifteen of twenty-three successive federal elections. The Liberal Party has maintained a firm belief in private enterprise and the maximising of choice in economic policy, seeking to limit and wind back regulation and taxation. It supports the maintenance of strong upper houses in state and federal parliament to check executive authority and, by upholding the federal system, curb the tendency to centralise power in Canberra. In social policy the Liberal Party has stressed individual responsibility as opposed to collectivism. It strongly encourages the right of parents to choose between state and private education.

In 1957 David Brand became leader, with Charles Court as his deputy. Leaving behind earlier disputes between the party organisation and an often hesitant leadership for a more positive image, the Liberal Party won

the 1959 state election and commenced a twelve-year coalition government, winning three more elections. Sir David Brand's term of office saw unprecedented mining, industrial and rural development, underpinned by major growth in infrastructure. Charles Court, as Minister for Industrial Development, persuaded the federal government to lift its embargo on the export of iron ore, and gave WA a reputation as a resources supplier and trader of world significance.

After 1965 the Legislative Council was elected by adult franchise and its separate, property-based electoral roll abolished for the first time since its creation.

Despite a narrow Liberal defeat in 1971, Sir Charles Court regained government in 1974 and won two further elections comfortably for the Liberal–National coalition until his retirement in 1982. The son of a plumber and trade unionist, he had become a successful accountant who had served as a lieutenant colonel in the south-west Pacific during the Second World War. Under his leadership the Liberal Party was successful for a time in winning new seats in regional cities and the North-West, the latter dominated since the 1930s by the Australian Labor Party. As premier for eight years, Sir Charles Court was again successful in building infrastructure parallel with major resource development. Ray O'Connor (born 1926), an experienced minister, succeeded him as premier, but in 1983 was defeated in a major Labor resurgence. The Liberal Party was to lose two more elections and spend the next ten years in Opposition, but from the late 1980s campaigned strongly against the Labor government-initiated business deals that were characterised as 'WA Inc'.

Richard Court (born 1947), son of Sir Charles, with a previous successful career in small business, was elected Liberal leader in 1992. In 1993 he led a Liberal and National Party Coalition to a convincing election victory. As a priority the restoration of the state's international AAA credit rating was

secured and state debt almost halved. In the field of resource development, the Chinese energy market was opened to liquid natural gas from WA. Social infrastructure completed in the eight years of the Court government included the building of four new hospitals, forty-seven new schools, and the Graham Farmer Freeway.

The Liberal and National coalition was re-elected in December 1996 with an increased majority in the Legislative Assembly, but this was sharply reversed by defeat in the election of February 2001. In Opposition, Richard Court resigned and was replaced by Colin Barnett (born 1950–), Liberal deputy leader since 1992. A former director of the WA Chamber of Commerce who had held the demanding portfolios of Resources Development and Education, Barnett led the Liberal Party to defeat in the February 2005 election. During the following years of instability, Matt Birney (born 1969–), Paul Omodei (born 1950–), Troy Buswell (born 1966–), and finally Colin Barnett was elected to lead the Liberal party. In the state election of September 2008 Barnett, after less than five weeks in the job, led the party to a stunning but narrow victory that was dependent on the support of the National Party as well as Liberal-leaning Independents. **Jeremy Buxton**

See also: Parliament; Politics and government

Further reading: I. Hancock, *National and permanent? The federal organisation of the Liberal Party of Australia 1944–1965* (2000); J. R. Nethercote (ed.), *Liberalism and the Australian Federation* (2001)

Libraries in Western Australia began with book collections brought to the colony by government officials and settlers. Books were shared between neighbours and through gentlemen's clubs, but the first real attempt at a library came with the short-lived Mechanics' Institution in 1842. Its successor, the Swan

River Mechanics Institute (est. 1851) became the Perth Literary Institute (1909), moved to new premises on the corner of Hay and Pier Streets (1931), changed its name to the Perth City Library (1957), and joined the expanding WA Library Board network four years later.

During its first 120 years of settlement, WA had to rely on mining, railway and mechanics institutes, government departments, professional associations, churches and educational institutions for most of its library services. Mechanics institute libraries were established in Fremantle (1851), Albany (1854), and York, Busselton, Guildford, Northam and Bunbury in the 1860s. Library development echoed changing economic conditions. After the first flush of agricultural expansion, the next growth came with mining institutes and the spread of railways in the gold boom of the 1890s. Books were exchanged between institute libraries and carried on the burgeoning railway networks to workers and families along the tracks. Commercial subscription libraries were started, often as an adjunct to shops in suburbs and country towns or as part of larger commercial enterprises (such as Boans department store) in Perth and regional centres.

Improving economic conditions brought more business and professional activity. The professional library established by lawyer Stephen Parker pre-dated the Parliamentary and Law Library (1873). The 1890s boom spurred library development in government departments: WA Museum (1891); Agriculture (1894); Art Gallery (1895); and, in 1896, Mines, Geological Survey, Government Chemical Laboratories, and Perth Astronomical Observatory. The Public Health and Medical Department Library opened in 1901, the Supreme Court Library in 1903, and The University of WA Library in 1913.

In 1887 the Victoria Public Library (later The Public Library of WA) was established to commemorate Queen Victoria's Jubilee. In 1894, J. S. Battye, a young Melbourne graduate, was appointed Librarian. Battye introduced innovations in library science and began shaping a scholarly but representative collection. He initiated library exchanges and loans to Institute libraries; sought out local newspapers, company records, patents and government records, which laid the foundation for the State Archives. He supported the passage of the *Copyright Act* of 1895 to require legal deposit for WA publications, thus significantly boosting the library's collection. Plans were laid for a grand new building to house the Public Library, Museum and Art Gallery. Battye supervised the move to its first stage in 1897, and in 1913 to the James Street section, which was to become the library's home for the next seventy-two years. Although Battye refused requests to start a lending service, contemporary accounts show the library (comprising reading room, newspaper room and a children's room) as a popular facility averaging 570 visitors a day.

Ironically, 1913 also marked the end of the library's golden era. Budgeting, acquisition and staff cutbacks in the First World War led to damaging effects lasting through the Depression and on into the 1940s.

In 1950, Battye, now in his seventies, rejected all attempts at modernisation, but the public wanted change. Successful Free Library Movement lobbying in other states prompted a spirited WA campaign for reform, resulting in the passage of the *Library Board Act* of 1951. Professor Fred Alexander was elected Chair; in 1953 F. A. Sharr was appointed Executive Officer. The Library came under the Board's control just over a year later, following Battye's sudden death in 1954. Sharr commenced immediately refurbishing the building, updating the collection and introducing modern technology and management practices. His appointment as Western Australia's first State Librarian was announced in January 1956 and the Public Library reopened as the State Library of Western Australia in December that year (it was renamed again as the State Reference Library in 1974). The section housing the WA

archival collection was named The J. S. Battye Library of West Australian History to honour Battye's outstanding contribution.

In his twenty-three years of service to the Board, Sharr masterminded the growth and development of Western Australia's innovative public library network. He devised its system of shared state/local government responsibility for free public library services, introduced training for staff, consulted widely with readers and local authorities, and developed a cooperative lending network that made any book in the system available to all.

Robert Sharman's term as State Librarian (1976–88) brought further expansion and expertise to the state-wide lending network. By 1983 every local government authority was served by a public library. Operating from makeshift offices, specialist Library Service staff worked with designated regional librarians to assist smaller centres and provide specialist stock for loan. Sharman promoted library automation and supervised plans for a landmark building to house the State Reference Library and the Board's headquarters. The Alexander Library Building was opened in 1985.

Technological innovations in the last decades of the twentieth century saw a huge increase in publishing media and online services. Audio and videotapes, CDs, DVDs and software programs were added to the Board's music, oral history, film and print collections. Lynn Allen, appointed in 1989 as Sharman's successor, initiated a shift to online access to scanned records, photographic collections, specialist databases and networks.

New technologies impacted on libraries in all sectors. Business and commercial libraries were quick to adapt, as were school, university and many specialist libraries; but technology came at a cost. Faster methods and online access led to library closures or amalgamations. Book budgets declined in favour of subscriptions to online databases and software. School libraries (which had struggled through the early years of the century but blossomed in the 1960s and 1970s as a result of generous Commonwealth government grants) became increasingly reliant on online information. Government department and university libraries followed the same trend, working more collaboratively to stretch available finances further. Libraries still provided information, but a decreasing percentage of it came from books. In the early twenty-first century there were 238 public libraries in the state. **Alison Gregg**

See also: Battye Library; Book groups; Book publishing; Literacy; Magabala Books; Mechanics' institutes

Further reading: J. Cook, *Information, enrichment and delight: public libraries in Western Australia* (1985); R. C. Sharman and L. A. Clyde (eds), *Western perspectives: library and information services in Western Australia* (1995); F. A. Sharr, *Recollections: forty years of public library service* (1992)

Life writing is a relatively new late-twentieth-century concept that encompasses biography and autobiography, as well as diaries, journals, letters and first-person narrative in various disciplines including history, anthropology, sociology and politics that traditionally have eschewed such subjective display. Its orientation affects the modes of telling stories: the authenticity and truths carried in the concept of the self, and its social construction; of subjectivity, identity, and the agency of the writer/subject.

This shift from the formality of biography as a mode of recording the heroic pursuits of men of power, often part way between hagiography and adventure story but always with an invested authority, into a more 'democratic' record of a community and society is also evident in published works in Western Australia. The development of life writing as a genre comes out of this shift: of minority voices and the importance of a broad citizenry directly bearing witness. This genre makes a direct impact upon literature

and history; it is also worth noting that it is a highly popular area of publishing with a wide and growing readership.

The concept of life writing is a useful one when considering Western Australian lives on record. As was the case in many settler societies, accurate records of its people and their movements were not always maintained; further, there were few opportunities or outlets for publication of biographies of the founders and early settlers of Swan River Colony. The original inhabitants and traditional owners, the Nyoongar people, conducted their cultural work by oral transmission. Numerous fragments of biography, autobiography, diaries and unfinished memoirs and letters to people back home in England were written. Few of these were published. However, the work of historians and interested individuals and groups has preserved these records, often by patching together what remained in disparate places. In particular, the massive projects undertaken by Alexandra Hasluck (1908–1993) and Rica Erickson (born 1908) of reinstating convicts and other early free settlers into the history of WA in their own words should be noted. These projects bore fruit in the second half of the twentieth century and enrich our view of history.

Prior to the 1970s, the subjects of most biographies published in WA were of politicians, pioneers and other leaders of the community. The establishment of the Fremantle Arts Centre Press (FACP) in 1976 as a government-supported publishing house to nurture writing by Western Australians provided the most radical shift in focus of works published from this culture. As well as fiction and poetry, FACP actively supported the writing of life narratives by many citizens who had not had such opportunities of publication or a readership before. Testimonials and life-stories by women, by Aboriginal people, by migrants of non-English-speaking background, were published to national attention and acclaim. In 1981, A. B. Facey's battler narrative, *A Fortunate Life*, was published by FACP

and became, within years, one of Australia's best-selling books, receiving recognition as an instant 'classic' of Australian writing. In 1987, Sally Morgan's *My Place* was a similar landmark work of defining identity and the importance of 'place' in writing, offering a rich meditation on these themes through the exploration of the repressed, or hidden, reality of Indigenous Australians two hundred years after colonisation.

As an additional strand of this publishing of hitherto 'unknown' Australian stories, FACP published a number of works of life writing by non-English-speaking migrants, some of them translated into English or co-written by English speakers. These included Alfredo Strano, *Luck without Joy: A portrayal of a Migrant* (1986); Mate Alac, *Into the world* (1992), and Emma Ciccotosto (with Michal Bosworth), *Emma: a translated life* (1990). Their publications show FACP serving as a catalyst for the recording of sundry social shifts, particularly through this genre of life writing.

The year 1979, the sesquicentenary of the white settlement of WA, produced a flurry of publishing of historical material, much of which countered the dominant paradigm of white, male heroic lives. Much attention was paid to the convict heritage of the state and, for a general audience, was illuminating. Books were also commissioned to honour the lives and work of women and 'ordinary' citizens. That year, buoyed by generous subsidies for publishing, provides the significant turning point from the traditional biographical project to a different articulation of human experience (and a more democratically spread one) that we may usefully name as life writing. While the traditional biography remains today, it too has accommodated some shifts in temper, often acknowledging the context out of which it is being written in a more direct manner. **Terri-ann White**

See also: Aboriginal writing; Book publishing; Colonial writing; Multicultural writing

Further reading: R. Drewe, *The shark net: memories and murder* (2000); R. Erickson (ed.), *The brand on his coat: biographies of some Western Australian convicts* (1983); L. Hunt (ed.), *Westralian portraits* (1979); S. Kinnane, *Shadow lines* (2003)

Lighthouses have been built at over forty locations in Western Australia using stone, concrete, iron or steel, according to local conditions. Before lighthouses were built, beacon fires were used to guide ships into Fremantle at night. The first two lights, on Rottnest and Arthur Head, Fremantle (demolished 1902), had limestone towers, and both were first lit in 1851. Two stone light stations were then built at Albany, at Point King in 1858, and on Breaksea Island in 1858 (now ruins, second tower built 1902). Lighthouses were also built at Geraldton; a limestone tower at Bluff Point in 1876 (now ruins); and a cast-iron lighthouse at Point Moore, Geraldton, in 1878.

The discovery of gold in WA stimulated shipping, including a service to Singapore. A cast-iron lighthouse was erected on Jarman Island, off Cossack, in 1888 in response to the Kimberley rush. Three lighthouses came into operation in 1896: Cape Leeuwin (stone), Babbage Island (timber openwork, replaced 1965), and the main lighthouse on Rottnest Island (limestone).

Once the new harbour at Fremantle took over from Albany as the state's major port, with Royal Mail steamers calling there from April 1900, new limestone lights were built at Bathurst Point, Rottnest Island (1900), and Woodman Point (1902), to guide shipping. Two cast-iron lights were built at the entrance to Fremantle Harbour on the South (1903) and North Moles (1906). Additional light stations were built at Cape Naturaliste (stone, 1903), Gantheaume Point (cast steel lattice frame, 1905), Bedout Island (cast steel lattice frame, 1909), Cape Inscription (reinforced concrete, 1910), Point Cloates (stone, 1910, now ruins), Cape Leveque (pre-fabricated

Jarman Island Lighthouse, Cossack, made of prefabricated cast iron, n.d. Courtesy Ron Richards and Heritage Council of WA (P02337)

iron, 1911), then Vlamingh Head (concrete, 1912), and two cast steel lattice frame lights at Cape Bossut (1913, removed 1995) and Airlie Island (1913).

Following the Commonwealth *Navigation Act 1911*, in 1915 responsibility for lights passed to the Commonwealth, which erected its first new light in the state on Eclipse Island (concrete), near Albany in 1926.

The first lighthouses were manned. They were powered by kerosene, gradually changing over to acetylene gas from the First World War period, and an automatic lighting system. The 1909 Bedout Island light was Western Australia's first automatic lighthouse.

The end of the Second World War inaugurated an era of change in both the services provided and the technologies used. Increased maritime traffic along the west coast saw the construction of unmanned lighthouses at Point Quobba (1950), Adele Island (1951), Great

Sandy Island (1959), Imperieuse Reef Rowley Shoals (1960), Cape Ronsard (1961), Lesueur Island (1963), Foul Bay (1967), Caffarelli Island (1967), East Island (1968), Casuarina Point (1971), Pelsaert Island (1974) and Cave Point (1976).

The first stainless-steel lattice tower built in WA was at Escape Island in 1980. An automatic lighthouse was erected at Guilderton (brick) in 1983. From approximately 1985 onwards, the lights were gradually changed to operate on solar power, by which time the last of the manned lighthouses had been phased out. **Phil Griffiths**

See also: Infrastructure and public works; Merchant shipping; Shipwrecks
Further reading: D. A. Cumming, M. Glasson and M. McCarthy, *Lighthouses on the Western Australian coast and off-shore islands* (1995); J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986); Lighthouses of Australia Inc., www.lighthouse.net.au

Literacy When early colonists arrived in Western Australia some could read and write, while others could not. Social standing rather than intelligence or ability determined this division. Reading and writing skills were generally considered either inappropriate or unnecessary for working-class people. In 1845, G. F. Stone, Registrar of Births, Deaths and Marriages reported that 10.5 per cent of the colony's males and 43.9 per cent of females could not write, 16.7 per cent of males and 16.3 per cent of females could write imperfectly, 44.2 per cent of males and 29.5 per cent of females could write well, and 28.6 per cent of males and 10.2 per cent of females had received 'superior instruction': figures that he thought showed the settlers were better educated than the general British population. The early gentry families found it difficult to maintain literary pursuits or to educate children because of the demands

of establishing themselves and the lack of material resources. Gradually, individuals, committees and religious bodies established schools with instruction differentiated according to class. Educational institutions were for the 'better classes' while schools provided basic reading and writing instruction to the 'lower orders'. In 1845 there were no public or free schools in the colony; by 1872 there were fifty-nine government schools and twelve assisted schools throughout the colony and literacy increased accordingly.

There were also native schools, and prison and military schools run by missionaries or government authorities to promote religion and morality. Convict authorities set out to teach the convicts to read and write using Christian texts in order to cure criminality, but success was limited. Instruction was often resisted or subsequently forgotten because the skills were rarely used in daily work. Skills were assessed on a five-point scale: read and write 'well', 'both', 'imperfectly', 'read only', 'neither'—with the majority of men categorised as 'imperfectly' or below. Only the level 'well' would be considered now as functionally literate.

In 1871 school attendance became compulsory for settlers' children aged between six and fourteen years residing within three miles of a school, but many parents could not afford the fees, did not think schooling relevant or required the labour of children at home or on farms. In 1884, ninety schools were operating with 4,156 children enrolled and approximately 75 per cent attending, from 90 per cent in urban centres to 45 per cent in rural areas. Nearly 20 per cent of children were neither enrolled nor attending. In 1881 there were 24.7 per cent of students aged under 7, comprising of: 18.8 per cent in standard I; 16.8 per cent in standard II; 17.3 per cent in standard III; 13.2 per cent in standard IV; 5.7 per cent in standard V; 2.6 per cent in standard VI; and 0.9 per cent standard VII. Levels of attainment were not high. Schooling for some families was a new

experience and was resented as an intrusion into a familiar way of life.

The gold rush of the 1890s brought many people to WA from the eastern colonies, where the move towards a more fully literate population was further advanced. The demand for goods and services, including better schools, increased dramatically. The demographic shift caused by the gold rush also coincided with a growth in manufactured food items and other commodities that used print to identify and advertise to a general public. Public print, such as street and traffic signs, shops and business identification, changed the nature of townscapes. New employment opportunities as clerks and typists existed for literate school-leavers. Between 1890 and 1910, literacy ceased to be such a class divider in WA. Being literate began to be equated with intellectual ability, education and upward social mobility. In the 1901 census for Australia, 84.2 per cent of the population over the age of five stated that they could read and write, 2.2 per cent read only, and 13 per cent could neither read nor write; 77.2 per cent were Australia-born and 22.8 per cent were born overseas, of whom only 3.3 per cent were non-English-speaking.

Although learning to read and write was made available to and accepted by all from the early twentieth century, there were still those who missed out. Well into the 1930s, Aboriginal children could be excluded from government schools if other parents objected to their attendance. Rural and isolated children were never so well served as urban children. During the Second World War, the Army Educational Corps found that many army recruits needed assistance with basic reading and writing skills, and provided readers and sample letters home.

Reading and writing skills are no longer included in census data, and it is assumed, because of educational opportunities, that 99 per cent of the adult population of WA is literate. A 2005 Australia-wide survey for community radio, however, suggested that nearly 20 per cent of those aged fourteen to seventy-four years experienced difficulty reading a newspaper and would be deemed functionally illiterate. Literacy still creates and maintains socio-economic divisions between those who can function easily and those who experience difficulty with reading and writing. **Noelene Reeves**

See also: Aboriginal education; Education, primary

Further reading: M. Meek, *On Being Literate* (1991); N. Reeves, 'This is His Mark: Convicts and Literacy in Colonial Western Australia', *Westerly*, vol. 30, no. 3 (1985); N. F. Reeves, 'How Literate is Literate? Changing Views of Literacy in Australia', *Australian Journal of Reading*, 8, 2 (1985); N. Reeves, 'The Experience of Government Schooling in Western Australia Circa 1896', in P. Hetherington (ed.), *Childhood and society in Western Australia* (1988)

Literary awards and prizes Western Australia's earliest literary competitions are little documented, though creative pursuits began at an early stage in colonial life. Important historical occasions such as centenaries, war victory celebrations and completion of major public works have often prompted prizes for literary achievements. Essay competitions, usually for schoolchildren, were also common.

Prior to the Second World War, most authors knew their hope for recognition lay in national literary competitions and international awards like the Hodder and Stoughton novel competition (the Australasian section was won by Katharine Susannah Prichard in 1915). Many WA writers have won such competitions as the Commonwealth Poetry Prize, the Miles Franklin Award and the Vogel Prize.

From the 1950s, commercial interests showed some enthusiasm for literary prizes, more as a means of increasing circulation than for the betterment of literary standards.

More recent competitions have included the Tom Hungerford Prize for an unpublished novel, sponsored jointly by the Fremantle Arts Centre Press and New Edition Bookshop.

Local councils and shire organisations have, however, supported awards to promote the efforts of regional writers. City and shire libraries have also been active in supporting young writers.

The state's universities (including former teachers' colleges and institutes) have also sponsored important literary competitions, particularly since they began to offer creative writing courses. Some competitions are now open events. UWA Press, in association with The University of Western Australia's School of Indigenous Studies, established the Marrwarrning Award in 1999.

The major array of prizes came into existence from the mid 1970s, coinciding with the growth of organisations for writers and the emergence of the writers' centres. The Fellowship of Australian Writers at Tom Collins House has two annual literary prizes, namely the Tom Collins Poetry Prize and the 'Lyndall Hadow/Donald Stuart Short Story Award', both dating back to the mid 1970s. The Society of Women Writers (WA branch) offered prizes from the 1940s, and the Peter Cowan Writers' Centre and the Katharine Susannah Prichard Foundation have also set up annual national awards since the 1990s.

The foremost literary prize in the state for a published work is the annual Western Australian Premier's Award and associated prizes, organised by the Department of Culture and the Arts in conjunction with the State Library of Western Australia. Begun in 1982, the Premier's Award had been extended by 2005 to include additional awards for collections of poetry, fiction, non-fiction, scripts, WA history, children's books and books for young adults.

In 2008 a new $110,000 award was announced. The WA Premier's Australia–Asia Literary Award is the richest in Australia.
Glen Phillips and Trish Kotai-Ewers

See also: Aboriginal writing; Art prizes and awards; Writers' centres and organisations
Further reading: B. Bennett (ed.), *The literature of Western Australia* (1979); J. K. Ewers, *Creative writing in Australia: a selective survey* (1959); J. Lang, *At the toss of a coin: Joseph Furphy: the Western link* (1987)

Literary criticism is practised every time a reader speaks with pleasure about a book or flings it across the room in disgust. In this sense, Western Australian literary criticism might be said to have begun in 1830 with George Fletcher Moore's comment on the 'sad wastry' (of paper) and his playing 'the fool' when writing about his own poetry composed on the passage to Fremantle. However, during his stay in the colony, he lamented, 'Our minds are in danger of becoming rusted for want of the polish of the literature of the day'.

The first formal literary criticism might be dated from early newspapers, particularly the *Inquirer* (1840–1901), whose stance was moral and political, and mid nineteenth-century public lectures on contemporary writers such as Tennyson and Longfellow. Later publications with literary critical significance include the *Fremantle Herald* (founded 1867), the *Geraldton Express* (founded 1878), Christmas issues of *The Western Mail* (founded 1895), and, even more importantly, many of the goldfields newspapers from the mid 1890s until the early twentieth century, as well as Perth's *Sunday Times*, which published the work of André Hayward and 'Dryblower' Murphy, superb poets as well as literary critics with a political and social bent.

The West Australian has published literary reviews throughout much of its history. From the 1920s until the 1950s the paper published reviews and commentaries by the most famous literary critic in Western Australia's history, Walter Murdoch. Murdoch, foundation professor of English at The University of Western Australia, also spoke on radio, advised writers, and published essays and books. His literary

discussion was mixed with discussion of all sorts of things—'from rabbits to the League of Nations, from the poetry of Keats to the proper way of killing fowls, from cabbages to kings', as he put it. Murdoch, after whom Murdoch University is named, adopted a Nietzschean stance, seeing in literature an adventure of the spirit, which was opposed to 'the unadventurous, barn-yard sort of life to which modern civilisation is apt to condemn us'.

More ambitious than newspaper criticism was work published in the *Arts Quarterly* (1949–50) and the *Winthrop Review* (1953–55). These magazines were the forerunners of *Westerly*, begun in 1956 and remaining the flagship magazine for WA literary criticism.

An important milestone was reached in Western Australia's sesquicentenary with Bruce Bennett's edition of *The Literature of Western Australia* (1979), which included essays on the different literary genres and on literary journalism. Literary criticism has become increasingly sophisticated, and there are notable literary scholars in diverse fields in WA universities, literary criticism today reflecting world movements in intellectual thought. Contemporary literary criticism is extremely diverse in interest and orientation, ranging from historical scholarship to post-structuralist readings; there is no identifiable single school of Western Australian literary critical work. This professional criticism runs parallel with book reviews published in *The West Australian* and suburban newspapers, and the informal reviewing that takes place in book clubs, where WA has a greater rate of participation than any other state in Australia.
Dennis Haskell

See also: Book groups; Book publishing; Essays; Journalism; Journals and magazines; Newspapers, colonial; Newspapers, Goldfields; *Sunday Times*; *West Australian*; *Westerly*; *Western Mail*
Further reading: *AustLit: The Resource for Australian Literature*, www.austlit.edu.au

Livestock The first livestock recorded arriving at the Swan River Colony were a bull, two calves and four sheep landed from HMS *Challenger* in May 1829, followed by sheep and horses in August that year from the *Calista*. Settlers considered sheep indispensable to their future and over half the vessels arriving at the colony in the fifteen months to September 1830 landed a total of some 8,000 head. Early arrivals included Leicesters, South Downs and Merinos from England, an occasional delivery of what were termed 'Cape sheep' from Cape Town and shipments of Merinos from the eastern colonies. By the early 1840s almost 80 per cent of the colony's 100,000 sheep were pastured in the York and Toodyay districts.

In the 1840s three factors inhibited sheep numbers: the practice of boiling sheep down for tallow; shortage of food, prompting a large number to go under the butcher's knife; and deaths from toxic herbage, chiefly York Road and Champion Bay poison. However, these losses were more than offset by an influx of consignments in the 1840s and 1850s from eastern Australia, and by 1860 sheep had reached some 260,000 in number. In the 1860s, scab, a skin affliction caused by a mite (*Psoroptes ovis*), detrimental to the wool and inhibiting flock growth, made its appearance; not until 1897 was it finally eradicated from the colony.

The 1860s witnessed the start of sheep grazing in the North-West, initially around Roebourne, then at De Grey River, and spreading from the Fortescue River down to the Gascoyne. By the 1880s sizeable shipments of sheep from eastern Australia were running along the Fitzroy River in the West Kimberley region. By 1901, seventy-five per cent of the state's sheep were pastured on pastoral leases from the Kimberley south to the Murchison, and in the Eastern Goldfields. Since the 1970s sheep are longer run in the Kimberley, and less than 10 per cent of the state's sheep are now run in the pastoral districts.

The increase of sheep numbers in the agricultural districts in the ten years to

1910 led to the establishment of saleyards and killing facilities at Midland, augmented by abattoirs in several farming districts from Geraldton down to Albany. Sheep numbers in the agricultural districts had risen to 36 million by 1990, but by 2004 had declined to 22 million. In the 1950s the export of large-framed wethers to Singapore provided a lucrative market for farmers. By the 1990s a thriving export of live sheep to the Middle East had developed, and in 2001 some 3.8 million head were shipped to ten countries in the area, as well as to Mauritius, Mexico and South-East Asia.

In 1885 cattle arrived overland from across northern Australia to the Kimberley districts, which, by 1918, were carrying 633,000 head; numbers have now dwindled to under 400,000 head. Beef and dairy cattle also featured in early ship manifests, and by 1900 totalled 340,000 head. Cattle numbers in the agricultural districts almost doubled in the ten years from 1900 to 1910, leading to the establishment in 1914 of saleyards and the building of an abattoir at Midland. An abattoir for cattle established by E. G. Green in Harvey in 1919 was, by 2005, handling 50 per cent of the cattle produced in the state. In 1985, brucellosis, a disease causing spontaneous abortion in cows and infertility in bulls, was finally eliminated from the state, a milestone in the cattle industry.

In the first fifteen months of the colony almost one hundred horses were landed, and within thirty years this number had grown to almost ten thousand. By the early 1920s over 180,000 were being used in commercial and rural pursuits, but thereafter numbers declined as motorised transport took over. Compulsory branding of horses and cattle was introduced in 1853, and by 1871 included sheep and all other livestock.

Some settlers brought bullocks to the colony, which played a significant role in early development. They were more cost-effective than horses, both in initial outlay and, being better foragers than horses, having

an advantage in ongoing costs where fodder was expensive. Aside from an isolated case of pleuropneumonia in 1897, the bullocks were free of this virulent disease and, being hardier than horses, were utilised in the goldfields, in the pastoral country and in the timber forests of the South-West. Donkeys, too, were involved in the state's outback development. With their ability to feed off local scrub, by 1901 they were drawing wool wagons in the pastoral country from the Kimberley to the Murchison, and were used in the construction of the rabbit-proof fence.

Goats also arrived with the early settlers, their foraging habits well suited to the harsh Australian bush, and an active trade in goat meat was sustained. In recent years feral goats, which have wreaked great destruction in the pastoral areas, were subject to a program of intense eradication, but despite this they provide a significant source of income to many pastoralists who trap them periodically near water sources and sell them to specialist abattoirs.

Following Ernest Giles's 1875 expedition proving the suitability of camels to Australian conditions, small consignments of camels came to the colony in the 1880s, either by sea or overland from South Australia. The gold rushes of the 1890s provoked a surge in their importation, 1895 seeing nearly 2,500 brought into the colony. Eminently suited to the arid outback country, they were utilised in transport to the goldfields, in carting goods to the pastoral properties and backloading with wool. Following stringent regulations on stock diseases, the import of camels ceased after 1898, but by 1901 there were still over 2,500 in the state.

In the early years, pigs were also a significant source of food, with numbers doubling every ten or twenty years until 1900, when they totalled over 61,000. A total of nearly 300,000 head in the early twenty-first century provides a lucrative income for pig farmers.

In 1851 the government offered a bonus of £50 to the first importer of alpacas into the

colony, but apparently there was no response. It was not until 1990 that alpacas came to the state, with an active group of enthusiasts now running some 6,000 head for their soft, fine wool.

Following efforts to introduce red deer into the state in 1897–98, red and fallow deer were released in 1899 and by 1920 several other releases had been made. In 1978–79 both these breeds were imported for farming, and numbers are now estimated at 9,000 and 7,000 respectively.

Hog deer, sambar deer, eland, American buffalo, guanaco and blackbuck antelope have all, at one time or another, been released into the wild, but none has survived. **Christopher Fyfe**

See also: Agriculture; Camels; Exotic fauna; Feral animals; Horses, transport; Pastoralism; Rabbit-proof fence; Wool
Further reading: C. Fyfe, *The bale fillers: Western Australian wool, 1826–1916* (1983); M. J. Kennedy, *Hauling the loads: a history of Australia's working horses and bullocks* (1992); J. L. Long, *Introduced birds and mammals in Western Australia* (1988)

Local government institutions were slow to emerge in the struggling colony of Western Australia, but grew in prominence as the colony prospered, and then multiplied in numbers and extent as the settled areas spread and developed. The first step was the *Towns Improvement Act 1838*, the first form of local government in Australia. It provided for the establishment of town trusts, composed of Justices of the Peace and all proprietors of allotments held in fee simple (the beginning of the property-based franchise), and a general trust for rural roads. As much as anything, this legislation reflected the administration's difficulties in providing a system of communication within the colony. The trusts struggled administratively and financially because of their small populations and the marginal

economy, but they survived until 1871 in the major towns, including Fremantle, Albany, and Guildford. Perth was designated a City Council in 1858. The *Municipalities Act 1871* put town trusts on a sounder footing and extended wider regulatory powers, such as the licensing of slaughterhouses and markets and the power to provide places of public recreation. The other landmark legislation of 1871 was the *Road Districts Act*, which provided for locally elected road boards. There were eighteen such boards at first, with boundaries of some districts extending to the South Australian border. The powers of these boards were restricted to the construction and repair of roads and bridges.

It was inevitable that local government would become an important part of the state's governing fabric, given the breadth of the state and the spread of its communities and the distance of many communities from the seat of government. Related to this was an urban–rural dichotomy, with different forms of local government persisting for decades. The dual system of roads boards and municipalities, with different functions, degrees of oversight, bases of election and finance, emanated from the 1871 legislation, and continued with the *Municipal Incorporations Act 1906* and *Roads Board Act 1919*. There were population and revenue criteria for elevation to city status, and a rate revenue requirement for a roads board to become a municipality. This distinction continued in the subsequent *Local Government Act 1960*, though by then the difference was in name only (cities, towns and shires); otherwise there was uniformity in all operational aspects. The differences between city and rural local governments was reflected in their representative bodies (the Municipal Association, formed 1894, and Roads Boards Association, 1898), a division which persisted to the formation of the combined Western Australian Local Government Association in 2001.

Until the 1995 Act, an *ultra vires* legislative framework limited local governments

to functions specified by legislation. For example, the *Municipalities Act 1871*, and subsequent legislation, specified the things that local government could do and the way such things could be done. Right through until the 1950s, roads boards were considered a lesser form of local government, having fewer powers than municipalities, and subject to greater ministerial control of their finance and administration. The *Local Government Act 1995* was a major step forward, providing a general competence power and effectively removing the limits on activity (unless prescribed by other legislation).

Local government remains a 'creature of the state', but the maturing of local government is evident in reduced state government oversight, and increased dialogue and partnerships. A Department of Local Government was created as an overseeing agency in 1949, a role previously undertaken by the Colonial Secretary's Office and the Lands and Public Works Departments. One manifestation of the state's pre-eminent power over local government is the capacity to sack or suspend a council. This power, previously only applicable to roads boards, was extended in the 1960 Act to all local governments.

One theme has been the shift from a landowner focus and control to a more inclusive and encompassing view of community, through the extension of the voting franchise, a shift from property to people services, and a holistic planning focus. For example, the *Town Planning and Development Act 1928* enabled the preparation of local town-planning schemes; the first was approved for the municipality of Guildford in 1931. The *Local Government Act 1960* ended the property-ownership basis of the franchise, extending the vote to occupiers, and subsequently this was extended to all residents in 1984. WA was the last state to adopt the adult franchise; non-resident property owners retained a voting entitlement.

While the state provided the legislative mechanism for local communities to embrace local government, there was no general need for the government to impose the institution on an unwilling populace. Gold-rush-driven population growth saw a surge in the number of local governments, because local residents were keen to facilitate community progress, and the larger districts were happy to have areas excised to make their task easier. The number of local governments peaked at 147 in 1909. Since that time, many entities have folded due to population loss, or merged for economic or social reasons. However, new entities have emerged elsewhere, such as the creation (by the State) of the Kwinana Roads Board in 1953 and the community-driven Shire of Ngaanyatjarraku in the western desert in 1993. There was a series of reviews in the twentieth century, mainly state government led, to redefine the local government map, but generally with little effect. The number of local governments in 2005 stood at 142. Regional groups, including regional councils under the Act, have grown in importance, particularly for resource-sharing activities such as waste management.

There has been a slow but positive progress in the role of local government. Local governments have expanded in functions and importance, assisted by a growth in revenue base, which increasingly has included government grants and user charges, in addition to the traditional valuation-based property rates. Local governments have never fully raised their own revenues; the early roads boards raised no rates at all and relied on grants from the colonial administration. State governments have generally been keen for local government to take on more local functions, such as in health and environment. Even so, the state has resumed larger scale activities such as water supply, electricity and traffic control.

J. R. H. Johns, writing in the 1940s, made an astute assessment of the position of local government at that time, observing that structural changes had lagged behind changes in function and fiscal need and that the main disabilities of local government were

uneconomic local governments, a disparity of needs and resources, the varying authority of municipalities and roads boards, and the inability to do services on a regional level. While some of these issues were addressed by subsequent legislation, some remain relevant at the beginning of the twenty-first century. **Christopher Berry**

See also: Electoral system; Suburban development; Taxation; Town planning
Further reading: C. Berry, 'Local government boundaries in metropolitan Perth', PhD thesis, UWA (1987); M. C. Wood, 'Western Australia', in J. Power, R. Wettenhall and J. Halligan (eds), *Local government systems of Australia* (1982)

Log-chopping as a sport originated in Tasmania and, apart from becoming popular in the USA, has remained uniquely Australasian. Western Australia's first log-chops were at Karridale in 1882. By 1897 there was a Log Chopping League, with carnivals held at Fremantle and Bunbury during the following decade. In 1893 log-chopping featured at the Royal Show, which soon became its major venue. The two events dating from that time are the standing block, where the axeman cuts through an upright log at about waist-level, and the underhand, where he stands longitudinally astride a horizontal block and attacks it between his feet. Simulated tree-felling was not introduced until 1968.

   The Depression-related slump in the timber industry brought competition to an end at the Royal Show after 1929. It did not return until 1945. Despite the mechanisation of logging in the 1950s, the sport flourished, especially in its purpose-built stadium at the Royal Show, where World Championships were held in 1979 and 1987. By 2002 there were log-chopping events on every show day but the last, with finals on the main arena.

   Log-chops retained their importance in the forest region. In Collie, competition continued through the Depression, in conjunction with whippet-racing. Between 1947 and 1958 the Australia Day Carnival at Fonty's Pool, Manjimup, included log-chops, which also featured later in the Manjimup Timber Festival. The Jarrahdale 1500 was instituted in 1987, with prize money of $1,600.

   Skulduggery was common in competitions between the wars. When a Donnybrook axeman was invited to Pemberton in 1920, to compete against the locals before the Prince of Wales, the organisers allotted him the toughest log. For mill-town events in hotel yards sponsored by local publicans, competitors had to provide their own logs. A number who chose softer paperbark rather than jarrah were frequently betrayed by the timber's sour smell.

   Although no competitor now earns his living by wielding an axe, most have longstanding connections with the logging industry. At the 2005 Royal Show, three Open Championships, a father-and-son event and fourteen handicap chops for open, veteran, novice and Division I and II axemen attracted only 41 participants. Nevertheless, log-chopping remains a popular component of agricultural shows, where timber-industry sponsorship still provides quite generous prize money. **W. S. Cooper**

See also: Depression; Royal Agricultural Society
Further reading: W. Cooper, G. Moore and M. White, *Adversity and achievement: a history of the Royal Agricultural Society of Western Australia* (2004); J. P. Gabbedy, *The forgotten pioneers: axemen–their work, times and sport* (1981); H. W. Williams, *One day in Collie* (1979)

Lotteries In 1932, after three years of Depression, the state's Nationalist Party government suggested a possible solution to the problem of funding relief for the unemployed. A Lotteries Bill, the brainchild

of Police Minister Jack Scaddan, would make possible the formation of a Lotteries Commission, run and administered by the state government, with revenue raised to benefit hospitals and charities. Assisting charitable causes from the sale of intermittent lotteries, termed 'charities consultations', had been undertaken increasingly by the state government over the previous decade, but WA would be the only state to run its lotteries through such a commission. Debate centred on the immorality of gambling (the Nationalist Party had always opposed legal off-course betting on horse races) and concern about a rash of private lotteries, arts unions, raffles, sweeps and newspaper competitions. The *Lotteries (Control) Act* (1932) was passed on the basis of its contribution to social good and the government's desire to control these alternative forms of lotteries. It represented a trade-off: legalising a form of gambling to pay for social services in a time of dire need.

The first lottery draw was held in March 1933 and the winner of the £1,000 prize was a thirteen-year-old girl named Joan Smart. The Lotteries Commission made its first grant of £1,300 to the Children's Hospital that same year. By the end of 1939, the Lotteries Commission had contributed £32,500 towards extensions to King Edward Memorial Hospital. A decade later, in its largest grant to that date, the Lotteries Commission provided £1,500,000 for the construction of the new Perth Hospital, which opened 3 June 1948.

From 1932 to 1937 the *Lotteries (Control) Act* was re-submitted annually to parliament, which meant that each year the Commission faced possible closure. A 1937 amendment to the Act enabled the Commission to operate for three-year terms from 1938, extended to five-year terms in 1950. Then, in 1954, the *Lotteries (Control) Act* (1954) was passed, allowing Chief Secretary Gilbert Fraser to describe the Lotteries Commission as 'part of the permanent life of the State', in line with state lotteries in other states.

Following the outbreak of war in 1939, the Commission enlarged its field of responsibility to include social services as well as hospitals, and in 1940 Lotteries chairman Joseph James Kenneally (1936–54) pointed out that 'the West Australian lottery was the only lottery in the Commonwealth which devoted the whole of its profits to social services'. Steady postwar growth enabled the Lotteries Commission to dispense close to £400,000 for charitable purposes in 1953. The first woman member of the Commission, Ivy Kent, was appointed in 1958.

By 1974 the Commission had well over one million dollars invested for future commitments. A million-dollar lottery, the first in Australia, was announced in 1976, and Lotto was introduced in 1979. The introduction of a national Lotto bloc to run Lotto across several states in 1981 led to a further substantial increase in revenue for the Lotteries Commission. Turnover increased by 43 per cent over the first six-week period, meaning millions more for WA charities. In July 1982 the 'Sports-Culture Instant Lottery' was introduced in response to public requests for Lotteries funding for sports and culture.

By the 1990s a new Act was necessary to encompass the increased scale and complexity of the Lotteries Commission's operations and role in community funding, and in 1990 the Lotteries Commission Bill was enacted to replace the *Lotteries (Control) Act* (1954) and the *Lotto Act* (1981). In 2002 the Lotteries Commission provided a record $71.4 million for the benefit of the state's hospitals and community health needs. The following year the Commission changed its name to Lotterywest. **Michelle McKeough**

See also: Depression; Gambling; Service clubs and organisations; Welfare
Further reading: C. Fox, 'Bookies, punters and parasites', in *Studies in Western Australian History*, 11 (1990); G. D. Snooks, *Depression and recovery in Western Australia 1928/29 – 1938/39* (1974)

Lutheran church Lutherans began arriving in Western Australia from the 1880s from the eastern colonies of Australia, or as migrants primarily from Germany, Denmark and Sweden, largely for socioeconomic rather than religious reasons. They were geographically dispersed throughout the colony and lacked an identifiable economic niche, except possibly that of farming. Pastor Edwin Fischer, an Evangelical Lutheran Synod of Australia missionary, established the first Western Australian congregation (St John's in Perth) in 1901, as well as other congregations from Albany to the goldfields. The Immanuel Synod sent Pastor J. J. Stolz as a missionary pastor in 1906 and 1908, but this mission was discontinued.

During both world wars the government and the public incorrectly labelled 'the Lutheran Church' as 'the German Church'. Therefore, congregations experienced membership decline because of persecution, including the vandalising of church buildings, the threat of internment and loss of employment. Ironically, while the Australian synods had no official links with Lutheran Churches in Germany, many early Western Australian pastors received their theological training from the American Missouri Synod. In the 1947 census only 841 individuals in WA identified themselves as Lutheran, compared to 2,491 in the 1911 census. By 2006, however, this number had grown to 11,947. This growth was fuelled by 1950s postwar migration from Latvia, Estonia and Hungary; by the continuing migration of people from Germany, Scandinavia and the United States; by the internal migration of Australians to the west coast; and by the recent migration of Lutherans from Africa, Asia and Papua New Guinea. **Julie Manville**

See also: Germans; Internment; Migration
Further reading: I. Breward, *A history of the Australian churches* (1993); T. Hebart, *The United Evangelical Lutheran Church of Australia (UELCA)* (1985); D. Hilliard and A. D. Hunt, 'Religion', in E. Richards (ed.), *The Flinders history of South Australia* (1986)

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Magabala Books is the only independently operated Indigenous publishing house in Australia. 'Magabala' is the Yawuru word for 'bush banana' (*Marsdenia viridiflora*), a native fruit found along the coastal Yawuru country in Broome in the Kimberley region of Western Australia. When the fruit is ripe the follicles attached to the fruit open and allow the seeds to be dispersed by the wind. Like the magabala fruit, Magabala Books spreads the seeds of one of the oldest and most unique cultures in the world by publishing, recording and promoting Aboriginal and Torres Strait Islander literature within Australia and throughout the world. The Magabala Books imprint is recognised internationally.

The publishing house started in 1984 and became incorporated in 1990. It is managed by an Indigenous management committee, comprising representatives from the Broome community.

A number of books published by Magabala have won prestigious literary prizes, including Joanne Crawford and Grace Fielding's *A Home for Bilby* (winner WA Premier's children's book award 2004) and *Out of the Desert: Stories from the Walmajarri Exodus* by the Walmajarri storytellers, edited by Joyce Hudson, Pat Lowe and Eirlys Richards (joint winner WA Premier's non-fiction book award, 2003).

Magabala publishes in the genres of non-fiction, fiction, autobiography/biography, children's stories—both traditional and non-traditional, history, poetry, language and philosophy. **Mary Corina Martin**

See also: Book publishing; Children's literature; Literary awards and prizes

Malayan Campaign The Malayan Emergency was a British military campaign between 1950 and 1963 against Chinese communist terrorist (CT) insurgents. Commencing with the arrival of the RAAF in 1950, members of the Australian Army, Navy and Air Force began an active role in the campaign. The total Australian participation also included members of the Malayan Police and Home Guard as well as plantation managers, who were given auxiliary police status for the Emergency.

No. 38 (Transport) Squadron and No. 1 (Bomber) Squadron were assigned to Singapore. From here the Lincoln bombers raided insurgent positions in the jungles of Malaya, and the Dakota transports were engaged in paratroop drops, carrying essential supplies and dropping leaflets urging the insurgents to surrender. In 1958 the Lincolns were replaced by Canberra bombers and elements of No. 3 (F) and No. 77 Sabre Squadrons. These aircraft operated out of Butterworth Base in Malaya, extended by RAAF No. 2 Airfield Construction Squadron.

Six ships of the Royal Australian Navy saw action off the coast of Malaya: HMAS *Arunta*, *Warramunga*, *Anzac*, *Tobruk, Queensborough* and *Quickmatch*.

The army presence commenced in 1955 with the arrival of 2 Battalion of the Royal Australian Regiment (RAR) and was followed, in rotation, by 3 Battalion RAR (1957–59), and 1 Battalion RAR (1959–61). The RAR was committed to extensive patrols through jungles, guarding New Villages, and separating the insurgents from their sources of supplies. The Artillery Engineers also had a role in

road and bridge construction. The return of 2 Battalion RAR (1961–63) extended the Australian role to the Thai–Malay border operations against smugglers and bandits.

The Malayan Emergency was Australia's longest military engagement and one in which thirty-nine Australian military personnel died and a further twenty-seven were wounded, most of the casualties being suffered by the RAR. There has been little research into the specific involvement of Western Australians in the emergency. In 2004 the Malaysian government conferred the Award of the Pingat Jasa Malaysia on Australian servicemen in Malaysia between 1957 and 1966. **Neville Green**

See also: Air Force; Army; Navy
Further reading: P. Dennis and J. Grey, *Emergency and confrontation: Australian military operations in Malaya and Borneo 1950–1966* (1996)

Mandurah, from the Nyoongar word 'mandjar' (meeting place), or 'mungar' (fishtrap), refers to an annual meeting place on the Serpentine River, part of lands of the Bibbulmun people. Europeans settled in 1830 with Thomas Peel's unsuccessful settlement scheme at the Peel Inlet. The 1837 census of Mandurah numbered twenty-two, but by 1840 most original land grantees had disposed of allocations. The area remained isolated until late in the 1850s, when a road was built and a ferry punt constructed across the estuary as part of the road connecting to the ill-fated Australind scheme near Bunbury.

The 1870s and 1880s were relatively prosperous due to fish cannery. However, the establishment of Pinjarra as the administrative centre of the Murray Roads Board district and the new inland road built through Pinjarra meant a decline in Mandurah's importance as more people settled in Pinjarra. Construction of Mandurah's traffic bridge in 1894 gave easier access to areas south of Mandurah.

Limestone roads were replaced with bitumen in the 1930s, but until this, Mandurah remained largely unattractive to travellers, although tourism by rail via Pinjarra was very important in the 1890s.

Successful early industries in Mandurah were linked to its estuary location, with a main focus on the fishing and canning industries, but the canning industry declined following the death of its primary founder, Charles Tuckey, in 1912. Tourism subsequently emerged as the key industry for the area (Mandurah had always been a popular tourist destination for goldfields people), with property ownership increasing seasonally, but the permanent Mandurah population still only numbered around 150 people at the turn of the twentieth century.

Mandurah grew slowly in the first half of the twentieth century, with industry focusing on fishing, tourism and timber, with a mill for cutting tuart. The Mandurah Roads Board was established in 1949 and, following public dissension, was placed under the control of a Commissioner in 1956, eventually reforming in 1960. Mandurah began to thrive and was gazetted as a Shire in 1961. Mandurah grew rapidly and was upgraded to Town status in 1987 and City status in 1990. Mandurah is one of the fastest-growing areas in Australia and in 2006 had a population of 55,815. **Chantal Gurney-Pringle**

See also: Peel region; Peel Estate scheme; Peel settlement scheme; Pinjarra
Further reading: R. Richards, *The Murray district of Western Australia: a history* (1978); R. Richards, *Murray and Mandurah: a sequel history of the Old Murray District of Western Australia* (1993)

Manganese is used as an alloy in the production of steel. Although small tonnages of the ore were mined at Horseshoe (Murchison) in the 1920s, large-scale mining activity was not undertaken. Increased domestic demand

from steel production in the period after the Second World War, combined with the lifting of the export embargo, resulted in a number of small-scale manganese mines being established throughout WA. These included Horseshoe (1948–71), Mount Fraser and Peak Hill in the Murchison; Mount Sydney, Ripon Hills, Mount Cooke, Bee Hill and Woodie Woodie in the Pilbara; and Laverton, Mount Lucky and Ravensthorpe in the Eastern Goldfields. Prohibitive transport costs from these remote mining locations combined with the development of a high-grade deposit at Groote Eylandt in the Northern Territory in the 1960s, however, undermined the economic viability of these mines, resulting in their closure. The Woodie Woodie mine was reactivated in 1989 in response to improved export markets for manganese. **Garrick Moore**

See also: Geology; Iron ore; Pilbara
Further reading: J. G. Blockley, 'Pilbara Manganese Province, Western Australia', in C. L. Knight (ed.), *Economic geology of Australia and Papua New Guinea. [Volume] 1. Metals* (1975); L. E. de la Hunty, *Geology of the manganese deposits of Western Australia* (1963)

Manjimup, situated in the South-West region 304 kilometres from Perth, takes its name from two Aboriginal words, 'manjin', a reed with an edible root, which was crushed and made into a cake, and 'up', which means 'meeting place'.

Augustus Gregory explored the area in 1852, and Frank Hall, of Manjimup House, was the first European settler in the area of the township (circa 1859). The township was subsequently approved on 17 July 1903. In 1910 George Giblett (who had purchased Manjimup House in 1862) and William Johnston purchased half an acre for £49 and erected the first store, Manjimup Trading Company. Subsequent construction included

the railway station (c. 1911), Manjimup Hotel (1912) and Workers' Hall in 1913. When the Warren Roads Board was established in 1908 there were 339 adults living in the district. In 1961 it became the Shire of Manjimup and at the 2006 census the population was 9,256.

Initially the roads were just rough bush tracks and while the construction of the Blackwood and Warren River bridges improved communication, access to markets remained difficult until the extension of the railway from Bridgetown in 1911. The main impetus for this was the demand from 1900 onwards for karri and jarrah for use as railway sleepers (and in 1911 for the transcontinental railway in particular) and for telephone poles. Manjimup soon became an important centre for the timber industry.

Other industries in the surrounding area that have impacted on Manjimup as a regional centre include dairying (with the state's first group settlement started in the area in 1921), fruit and vegetables, tobacco, woodchipping, grapes and tourism. **Maxine Laurie**

See also: Dairying; Forestry; Group settlement; Horticulture; South-West; Timber industry
Further reading: J. E. Deacon, 'Pioneering in the South-West–The Story of Manjimup', *Early Days: Journal of the Royal Western Australian Historical Society*, IV, 3 (1951) and IV, 4 (1952); A. Muir, *Settler footprints from Star: Muir family: pioneers of the South West and Eucla, Western Australia* (2005)

Manufacturing In the early days of the Swan River colony, manufacturing was limited to essential industries such as boat-building, brick-making, lime burning, harness- and saddle-making and traditional blacksmith metalworking. The colony remained essentially a pre-industrial society until the 1860s, when steam-powered machinery was introduced into timber milling and flour milling. The coming of the state railways

and the timber company railways introduced new forms of metalworking required for the manufacture of rolling-stock replacement parts. The 1890s boom in gold mining encouraged machinery manufacturers from other Australian colonies, such as Forward Down & Co. from Adelaide, to establish machinery assembly plants in Kalgoorlie, where much of the additional plant was made in the 1900s.

The brewing industry was one of the most widespread on the goldfields. In 1900 there were thirty-eight breweries in the colony, though many supplied only local needs. As the goldfields' population began to decrease after 1905, most of the smaller breweries disappeared or were relocated. By 1924 there were only nine remaining, four in the metropolitan area and five in country towns. Another of the colony's oldest industries, candle-making, was revived by the mining boom. The two Fremantle companies of W. H. Burford & Sons and T. Kitchen & Co., during their period of peak activity in the 1900s, had a combined production of over 40,000 candles per day for miners' use.

Manufacture of the 61,000 pipes required for the 560-kilometre-long Goldfields Water Supply pipeline from Mundaring Weir to Kalgoorlie, which was under construction by the Public Works Department under Engineer-in-Chief C. Y. O'Connor, was shared between two contractors, G. & C. Hoskins and Mephan Ferguson. Locking-bar pipes to Ferguson's patent design were used throughout and were fabricated in two purpose-built factories at Midland Junction and Maylands from 1900 to 1902. Between 1890 and 1900 the number of manufacturing establishments in WA doubled. In 1900 there were 192 factories in the Perth district and 84 in the Fremantle district, plus a further 35 mainly in Midland Junction and Guildford.

Western Australia's import duties on goods purchased from the eastern colonies were phased out after federation, but local manufacturers complained of the 'dumping' of manufactured goods from the east in WA. It was also alleged that more Chinese were entering the state from the eastern states since federation, and that they were a threat to white employment in the furniture industry, although out of thirty-six furniture and cabinet makers in the state in 1906, only nine had Chinese names. Nevertheless, under the 1904 *Factories Act*, Chinese furniture factories were required to stamp their products with the words 'Asiatic labour'.

Retail shops in central Perth providing 'home furnishings'—such as Boan Bros, Foy & Gibson and Zimpels—manufactured most of the furniture they sold, usually in joinery works on the premises. Boan Bros made such a wide range of goods that when the company rebuilt its Wellington Street store in 1904 it had to establish a separate furniture and drapery factory in West Perth. Printing and engraving companies were also mainly concentrated in central Perth, close to their main clients.

In the 1900s there were eight small brickworks in the Helena Vale district, three in East Guildford and one on the Maylands peninsula, all of which produced wire-cut bricks, plus two further brickworks at Armadale and Byford producing pressed facing bricks. In 1910, Robert Law, a leading contractor, re-equipped his brickworks at Helena Vale to make it one of the largest in the state. The Scaddan Labor government, from 1912, established a number of state-owned business enterprises including a large, modern State Brickworks near Byford. In 1927, Law's company, Metropolitan Brick Company, the largest producer in the state, commenced work at Maylands on the company's third brickworks. During the 1920s, Lewis Whiteman's brickworks at Midland Junction rapidly expanded to become the state's second largest producer.

Metropolitan sewerage construction commenced in 1906, but the concrete pipes required had to be imported until 1911, when Law established a factory in East Perth

to manufacture concrete pipes by the French Monier method. Law had the field to himself until 1920, when Hume Pipe Company opened a factory in Jolimont to manufacture pipes using Hume's concrete spinning process, which produced a technically superior and cheaper pipe than Monier's. Hume also opened a factory in East Perth to manufacture welded-steel water supply pipes. The sewerage undertaking required large quantities of small-diameter vitreous clay pipes. In 1913, William Atkins, Law's former partner, formed the Stoneware Pottery Company to manufacture these pipes using blended clays.

Imported supplies of the house-building industry's two main roofing materials, corrugated steel and 'Marseilles' pattern clay tiles, were both interrupted during the First World War. To replace the corrugated steel, in 1918 Law started production of concrete tiles according to another Monier patent. The company which had previously imported the 'Marseilles' tiles, Wunderlich Ltd, established a specialist roofing-tile factory in Lord Street, Perth, in 1918, using clay from Pyrton, near Guildford. The lack of local cement supplies added substantially to the cost of concrete products such as pipes and tiles. This was rectified in 1920, when West Australian Portland Cement Ltd, of which Law was a director, constructed a cement works at Rivervale. Initial difficulties in obtaining suitable lime were eventually solved by using shell dredged from the bed of the Swan River.

The pattern of factory location in the metropolitan area changed surprisingly little in the fifty years from 1910. Most of the heavier industries were sited close to the railway, in an arc from South Fremantle to East Midland. A number of the smaller manufacturing companies were located in central Perth, East Perth and West Perth. One area of increased importance was the North Fremantle/Mosman Park peninsula, where the State Engineering Works, the Mount Lyell superphosphate works and the assembly plant for General Motors (Australia) were among the newly established industries. A number of clay and glass manufacturers and engineering works were located in the northern part of East Perth, and the tanneries, fellmongers and abattoirs, which had been there in the nineteenth century, had moved to East Midland, Robb Jetty, Coogee and Yangebup. Metters' foundry and enamelling plant and Hume's concrete pipe works were the first industries in a new industrial area at Jolimont, while Cuming Smith's superphosphate works and two engineering works were among the first in Bassendean.

The manufacturing industries which produced capital equipment and goods for new housing and agriculture were particularly hard hit by the Depression, and employment in the building-materials sector did not recover until 1939. When the Willcock Labor government was returned in 1939, the Minister for Industrial Development, Bert Hawke, and the first Director of Industrial Development, Norman Fernie, encouraged the development of industries which could manufacture goods to replace ones no longer available because of the war. The first of these was the State Alunite Works at Chandler near Nungarin, where a plant designed by Dr N. S. Bayliss, Professor of Chemistry at The University of Western Australia, manufactured potash fertiliser to supply all the requirements of Western Australian farmers and also some of those in the eastern states from 1943 to 1949.

One of the prerequisites for the establishment of a broader-based manufacturing sector was the local manufacture of pig iron. As Collie coal was non-coking, the government proposed to develop an iron industry fuelled by charcoal derived from timber not suitable for logging. In 1943 a government board of management, chaired by Fernie, was formed and the construction of a pilot plant capable of supplying the state's requirements for pig iron was commenced at Wundowie near Northam. The blast furnace was not blown until 1949, and it was not until 1952, when

better-quality ore from Koolyanobbing began to be used, that the high-quality castings for which the plant was later renowned began to be produced, and from 1957 the industry started to make a profit. A second blast furnace was installed in 1958 but the larger production was more difficult to sell overseas, and in 1976 the industry was privatised.

Soon after the outbreak of the Second World War, the Commonwealth initiated an urgent program to boost munitions manufacture. A factory to produce small arms ammunition with 7.5 acres of covered floor space was built at Welshpool in 1941, and in the following year a fuse factory was built on the same site, a 25-pound-shell factory at Midland and a Bofors shell factory in Kalgoorlie. The Welshpool factory was the first precision engineering, production-line factory in the state, and key workers were sent to the eastern states for training. Production commenced in October 1942 under works manager A. H. Constantine. By March 1943 the factory was working three shifts for six days a week, and in August 1943 the two Welshpool factories employed 1,400 women and 770 men.

The Chamberlain tractor factory was an important new postwar industry. Victorian tractor designers Bert Chamberlain and his sons Bob and Bill were persuaded by Fernie and Western Australian government

Working at the Clackline Brickworks, May 1940. Courtesy West Australian *(PP4806)*

incentives to establish a tractor factory in the Welshpool munitions factory, using machine tools obtained from a number of munitions factories around Australia. From 1949 to 1959, during a period of agricultural expansion, Chamberlain Industries built over 7,600 tractors designed specifically for local conditions, employing at any one time over nine hundred people. As a percentage of the state's total workforce, the manufacturing workforce peaked in 1954 at 19 per cent.

When the Anglo Iranian Oil Company decided in 1951 to establish a major new refinery in Australia, R. J. Dumas, the Director of Works, ordered an intensive study of all possible sites in WA. Kwinana, in Cockburn Sound, was identified as being capable of fulfilling all the company's requirements. In October, Dumas and D. Brand, the Minister for Works in the McLarty government, flew to Melbourne to see the Anglo Iranian delegation, and within a few months an agreement with the company was ratified by state parliament. The establishment of the refinery, which was opened in 1955, was probably Dumas's most important achievement as so much of the state's industrial development flowed from it.

When BHP wished to extend its iron ore mining in Yampi Sound to Koolan Island in 1952, the company agreed to establish a steel-fencepost factory and a steel rolling mill at Kwinana. A further request from BHP to mine ore deposits at Koolyanobbing, north of Southern Cross, led to the company agreeing to establish a blast furnace at Kwinana as the first stage in the development of an integrated iron and steel industry, in return for the state providing a rail link from Koolyanobbing to Kwinana to carry two million tons of ore per year. Charles Court, Minister for Industrial Development and Railways, then negotiated the 1961 Railway Standardisation Agreement with the Commonwealth, under which 85 per cent of the cost of a standard gauge railway from Kalgoorlie to Kwinana via Koolyanobbing was to be paid for by the Commonwealth.

A large new cement works, near Coogee, not far from Kwinana, was opened in 1955 by a local company, Cockburn Cement Company, which had the powerful backing of Rugby Portland Cement Co. of Britain. The government's cooperation with Anglo Iranian, BHP and Rugby Portland Cement marked a paradigm shift in the state's industrial development policies from the independent, labour-intensive approach of Hawke and Fernie to the capital-intensive alliances with large companies which were pursued by Dumas and Court. When the Commonwealth lifted the iron ore export embargo in December 1960, the way was open for the large capital-intensive exploitation of the iron ore and natural gas of the North-West.

The major changes to the metropolitan railway network and its freight-handling operations caused by standardisation, together with the industrial zonings and long-term road infrastructure introduced by the Metropolitan Regional Scheme (MRS), which came into force in 1963, set the pattern for the location of new manufacturing industries for the next thirty years. Rail was extended to service three new industrial areas. Kwinana grew into the heavy industry base for the state during the 1960s, with the alumina refinery commencing production in 1963, the nickel refinery in 1970, and the subsequent establishment of associated chemical industries. The second was the Kewdale industrial area, which grew rapidly in the 1970s around the WA Government Railways' Kewdale freight terminal, and the third was at Canning Vale, to which a number of inner-city industries (including the Swan Brewery) moved in the 1970s and 1980s. The other new industrial areas designated by the MRS were serviced by road. A ring of inner suburban industrial areas, established in the 1960s at about six to ten kilometres from the CBD, included Osborne Park, Belmont, O'Connor, Myaree and Maddington. A second generation of suburban industrial estates, further from the CBD, was developed at Balcatta, Malaga,

Wanneroo and Spearwood. Subsequently, only two new areas for heavy industry have been designated, the first an eastern extension to Kwinana and the second at Kemerton near Australind. During the 1990s an important new ship-building industry was developed in Cockburn Sound, producing for export large aluminium-hulled catamarans used as fast passenger ferries.

The integrated iron and steel industry, anticipated in the 1950s and the 1960s, has still not been successfully developed in WA, although very significant processing of minerals such as gold, bauxite and nickel has been achieved. Apart from mineral processing, the state's manufacturing industry has remained predominantly light manufacturing, supplying largely the domestic rather than the export market. **Richard G. Hartley**

See also: Boat and ship building; Brewing and breweries; Building construction; Food processing; Mining and mineral resources; Railway workshops; Textiles, clothing and footwear

Further reading: P. Firkins (ed.), *A history of commerce and industry in Western Australia* (1979); R. G. Hartley, *Industry and infrastructure in Western Australia, 1829–1940* (1995); B. Moore, *From the ground up: Bristile, Whittakers and Metro Brick in Western Australian history* (1987); D. R. Scott, 'Evolution of a Landscape–Manufacturing' in J. Gentilli (ed.), *Western landscapes* (1979)

Margaret River, 274 kilometres south of Perth, is the administrative centre of the Shire of Augusta–Margaret River. Archaeological evidence of Indigenous people has been found at various sites, including Mammoth Cave and Devil's Lair.

In 1857, following Aboriginal tracks, Alfred Bussell brought his family from the Vasse (Busselton) to settle at Ellen Brook, named for Ellen Bussell, north of the Margaret River, believed named for their family friend

Margaret Wyche. In 1865 the Bussells moved from 'Ellensbrook' to 'Wallcliffe'. Some of the Nyoongar people who still frequented the district worked for the Bussells and other settlers. In 1876, Aboriginal farmhand Sam Isaacs alerted the Bussell family to the plight of the SS *Georgette*, which was breaking up in Calgardup Bay. Isaacs and Grace, daughter of Alfred and Ellen Bussell, rescued many of the passengers and crew. Both were awarded medals for bravery by the Royal Humane Society. Edith Bussell established 'Home Farm' school (1879–1917) under the Church of England to educate Nyoongar children.

The spectacular limestone caves of the region have been successfully marketed as a tourist destination since the early 1900s. Best known are the Mammoth, Jewel and Lake caves to the south of Margaret River.

Agricultural development in the district was sparse until the 1920s, when the advent of the Group Settlement Scheme resulted in the establishment of numerous farms and the development of small townships, including Margaret River. Although the difficult struggle proved too great for some group settlers, others remained in the district, and infrastructure associated with the scheme, including railways (opened 1924–25), roads and bridges, enabled further development of dairying and fruit growing through to the 1950s.

After a 1965 study concluded the Margaret River area would lend itself to the production of premium table wine, Dr Tom Cullity planted the first vineyard in the district, Vasse Felix, in 1967. Its first wine aroused national interest in 1972, and, in 1973, Bill Pannell's red wines from his Mosswood vineyard (planted 1970) confirmed the promise of the district for wine growing. Margaret River gained recognition as a premium wine-growing region and viticulture became the region's major industry.

From the late 1970s, development of the wine industry and the associated tourist industry have brought a growing level of affluence and, with it, the transition from mostly timber-framed buildings to brick, concrete and rammed-earth construction. The latter, pioneered by Giles Hohnen at Cape Mentelle Winery and notably employed in St Thomas More Church, is seen as highly distinctive of Margaret River. **Robin Chinnery**

See also: Augusta; Busselton; Caves, tourism; Group settlement; Shipwrecks; South-West; Timber industry; Wine
Further reading: G. J. Cresswell, *The light of Leeuwin* (2003); P. Forrestal, *A taste of the Margaret River* (1995); T. Cullity, 'Vasse Felix Vineyard and West Australian Wine-Growing', *Early Days: Journal of the Royal Western Australian Historical Society*, 10, 2 (1997)

Marginal areas A large number of outer Wheatbelt farms settled after the First World War at considerable cost to the state had been abandoned by the mid 1930s due to high debt levels, poor seasons, low prices, insufficient acreages, incorrect soil classification (salt and alkalinity) and reliance on wheat as the main source of revenue. The Willcock state Labor government decided in 1937 to implement a plan to retain some of its investment in these areas, but on a limited scale due to cost. The entry of the Commonwealth into the scheme in 1940 with the provision of grant money made available under the *Wheat Industry Assistance Act* of 1938 enabled full implementation. This Act provided for the transfer of wheat farmers from 'lands unsuitable for the economic production of wheat or of arranging for such lands to be used for other purposes'. Rainfall and cropping statistics were used as state criteria for 'marginality' with the marginal areas approximating the 10–11 inch (250–275 millimetres) rainfall belt.

That year, a 'marginal area line' was drawn on the map of Western Australia from the north-west coast at about the 28th parallel to Hopetoun on the south coast, and five areas were identified for reconstruction: Ajana to

Kalannie; Kalannie to Southern Cross; Duly-albin; the Lakes/Ravensthorpe District; and Esperance/Salmon Gums. Over three million acres were involved (1,214,575 hectares) and £417,000 was to be spent over four years in reducing 2,202 farms to around 900 larger holdings, with sheep, not wheat, as the main source of income. As state and Common-wealth relief had been given to wheat-growers in these areas for a decade without improving the situation, the reconstruction plan offered a more permanent solution.

Commonwealth money provided sheep, fencing material and water supplies while state government assistance included reduc-ing land prices, reclassifying soils, increasing acreages by linking abandoned properties and writing off debts. Private creditors also reduced and wrote off debts. When the recon-struction was complete, around 784 farmers remained on blocks of 3,000 to 5,000 acres (1,215 to 2,025 hectares) where 250 acres (101 hectares) of wheat was allowed and approximately 1,200 sheep were run. More than a hundred farmers were transferred to other properties or districts.

The Commonwealth's expectation that wheat-growing would be eliminated or permanently curtailed in marginal areas was not realised as there was no legislation to this effect and wheat acreages increased with the return of favourable seasons and prices after the Second World War. Modern techno-logical advances and greater understanding of soil and climate help offset the significant seasonal variations still experienced in these areas. A considerable percentage of Western Australia's wheat harvests now comes from the former 'marginal areas'. Some, however, have been identified as at high risk from salinity. **Jocelyn Maddock**

See also: Agriculture; Environment; Land set-tlement schemes; Salinity; Wheat; Wheatbelt; Wheatbelt, heritage
Further reading: G. H. Burvill (ed.), *Agri-culture in Western Australia: 150 years of development and achievement, 1829–1979* (1979); J. Maddock, *Westonia: the wheels of change: a history of the district* (1998)

Marine environment The coast of Western Australia stretches an impressive 12,500 kilometres, from the warm tropical waters of the Timor Sea to the cool waters of the Southern Ocean, land and water meeting across wide mud flats in the north (often with mangroves), and sandy beaches or rocky cliffs to the south, with a continental shelf 10 to 400 kilometres across, widest under the shallow Timor Sea.

A most important environmental factor controlling the activity of plants and animals along the coast is the nutrient content of the water. Tides, rising and falling nine metres in the north but less than one metre in the south, enhance the exchange of nutrient-poor water offshore with nutrient-rich water in the many bays and estuaries dotting the coast.

There is no seasonal upwelling of nutrient-rich deep oceanic water off the coast, so there are lower fish and waterbird populations than in upwelling areas near the western coasts of other southern continents. On the other hand, a distinctive feature of water move-ment off WA is the Leeuwin Current, which seasonally brings nutrient-poor tropical water, and the organisms it contains, from north to south, spinning off vast eddies of gently rotating water seen in satellite images of sea surface temperature.

The ocean laps a coast with macroalgae attached to rocks, extensive seagrass meadows rooted in sediments and grazed by dugong and turtle, and scattered coral reefs. Sustained plant and animal productivity in these near-shore ecosystems depends on the ability of organisms to trap and recycle nutrients within their tissues and immediate surrounds, and in the food webs they support. And crawling about in this area of intense recycling are western rock lobsters, the basis of an inten-sive, profitable and well-managed industry.

The establishment of humans on the western coast, beginning around 40,000 years ago, presumably impacted locally on stocks of marine fish and birds, but, more generally, increased fire frequency on the landscape at a time of increasing aridity may have increased transport of material from land to water. This is speculation; what is crystal clear is how an expanding post-colonial human population, arriving after documentation of the coast by English and French investigators, dramatically changed the transfer of water, nutrients and particulates from landscape to ocean. This accompanied agricultural, urban and industrial development. At the shore there has been construction of shipping channels, causeways, ports, groynes, marinas and canal estates, while demand for lime (used in cement production) has resulted in the dredging of seagrass meadows to recover shell sand.

New channels have been cut to drain water more readily from landscape to ocean, while river training and dam construction have affected river flow to estuaries, and sewage outfalls discharge at three sites in the Perth metropolitan area, and one at Bunbury. Nutrient input has had dramatic effects on the biology of near-shore waters, formerly so nutrient deficient, especially in bays and estuaries with limited ocean exchange. Consequences of nutrient enrichment ('eutrophication') include estimates of 75 per cent loss of seagrass area in Cockburn Sound at the time of industrial development in the 1960s, an 80 per cent decrease in seagrass area in harbours near Albany, rotting macroalgae and noxious blue-green algal blooms in Peel Inlet and Harvey estuary from the mid 1960s, and increased plant biomass in Wilson Inlet and the Swan River.

Controlling coastal eutrophication involves managing nutrient application to catchments, modifying sewage processing and discharge, and improving exchange between estuary and ocean.

Understanding and managing such problems has coincided with increased knowledge and interest in the coastal environment, publicity about the sustainable use of resources, improved management of recreational and industrial fishing, creation in 1991 of the Shark Bay World Heritage Area and the designation of nine marine conservation reserves (with another three proposed), vested in 2006 in a newly created statutory body, the Marine Parks and Reserves Authority.

Public interest is strong, and often divided, in proposals for development in the coastal zone, including exploitation of offshore oil and gas fields, and industrial processing and export in the North. The complexity of managing a diverse coastline of almost 13,000 kilometres presents the many challenges of balancing conservation of the natural environment with development, as well as preserving cultural relics with links to a period before the arrival of non-Indigenous humans. **Arthur McComb and Di Walker**

See also: British maritime exploration; Coasts; Collections, algae; Dawesville Cut; Dutch maritime exploration; Ecotourism; Environment; Fishing, commercial; Fishing, recreational; French maritime exploration; Geological history; Jetties; Marine zoology; Oil and gas; Pearling; Ports; Sealing; Vlamingh's journey; Whaling

Further reading: A. Brearley, *Ernest Hodgkin's Swanland: estuaries and coastal lagoons of South-western Australia* (2005); A. W. D. Larkum, A. J. McComb and S. A. Shepherd (eds), *Biology of seagrasses: a treatise on the biology of seagrasses with special reference to the Australian region* (1989); A. J. McComb (ed.), *Eutrophic shallow estuaries and lagoons* (1995); D. I. Walker, 'The Western Australian Region', in R. C. Sheppard, *Seas at the Millennium: An Environmental evaluation*, 2 (2000)

Marine zoology The history of marine zoology in Western Australia began with observations of marine fauna by Dutch explorers in the

seventeenth century, followed by Dampier (1699), who illustrated a number of birds, fishes and cuttlefish but left no specimens. The most significant contribution was by the French expedition of Nicolas Baudin in two ships, the *Géographe* and *Naturaliste* (1801–03). Despite many problems, large collections were made mainly between King George Sound and Shark Bay. The sole surviving zoologist, François Péron, returned to France in 1804 but died before his work was completed. Descriptions of many Australian species were included in Lamarck's *Histoire naturelle des animaux sans vertèbres* (1816). About 1,500 superb illustrations by Lesueur and Petit are housed in Le Havre Museum, but few have been published.

New species of marine animals continued to be described by European zoologists throughout the nineteenth and early twentieth century from French and German expeditions such as *l'Astrolabe* (King George Sound, 1826) and *Gazelle* (North-Western Australia, 1874). The most significant was that of the two-man Hamburg expedition to south-western Australia in 1905. Their aim was to document the extent of tropical and temperate fauna on the west coast and to clarify the relationship of the terrestrial and marine fauna to that of South Africa and South America already surveyed by German expeditions. The results were published in a multi-authored five-volume report. American collectors also focused on Australia, with their collections deposited in United States museums. While overseas taxonomists deposited some material in Australia's state museums, the majority of type specimens are housed overseas, hampering research by Australian taxonomists. W. Saville-Kent, Commissioner of Fisheries, made extensive coral collections from Shark Bay and the Houtman Abrolhos. He postulated (1897) that a warm, south-flowing offshore current was responsible for the predominantly tropical nature of the Abrolhos marine fauna while the adjacent mainland had a temperate fauna. W. J. Dakin,

the founding Professor of Zoology at The University of Western Australia (UWA), made similar observations after visiting the islands in 1913 and 1915. Oceanographic surveys by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and satellite images made during the 1970s–80s established the extent and course of the current along the shelf-edge, naming it the Leeuwin Current in 1980. This current has a profound influence on the composition of island and shelf faunas off the west coast of WA.

The WA Museum, founded in 1891, slowly built up collections of fishes and marine invertebrates, including some from the Commonwealth Trawling Survey in the western bight and between Fremantle and Geraldton by the FIS *Endeavour* in 1912 and by the SS *Bonthorpe* in 1930 (western bight). Molluscs were among the first invertebrates to be studied by Australian taxonomists, and Charles Hedley (Australian Museum) published a preliminary index of Mollusca of Western Australia in 1916.

After the Second World War, marine studies at UWA were led by Dr E. P. Hodgkin. These began with descriptive ecology of intertidal areas, progressing to detailed experimental ecology of intertidal molluscs and population biology and genetics of diverse taxa. Much of the fieldwork for these studies was carried out at Rottnest Island where a field station was established in 1953. More recently, work has extended to the Houtman Abrolhos, Shark Bay, Exmouth Gulf, Ningaloo Reef and the North-West Shelf.

Marine science was given a boost in the 1950s with the use of scuba, giving access to rocky habitats that could not be sampled by dredging. In the 1960s and 1970s there was an expansion in marine research in WA by state and federal organisations, partially funded by Australian Marine Science grants from 1979. The Council for Scientific and Industrial Research (from 1949 the Commonwealth Scientific and Industrial Research Organisation, CSIRO) commenced oceanographic and

fisheries research in WA in 1943. In 1968 the state government established the WA Marine Research Laboratories at Waterman. This significantly increased the capacity for marine zoological research on rock lobsters, commercial species of fish, crustaceans and molluscs, developing expertise in population dynamics and management. It housed both state and CSIRO marine scientists until CSIRO built the Marmion laboratories in 1976. These have been closed, with marine research transferred to the CSIRO Floreat Laboratories. The state has now built an expanded marine (and freshwater) laboratory at Hillarys, opened in 2005.

The declaration of the 200-nautical-mile fishing zone around Australia (AFZ) necessitated a change in direction by CSIRO to survey the fish and crustacean fauna in Commonwealth waters of the continental shelf and beyond. In north-western Australia, trawl surveys in the 1980s were aimed at providing data for management of the tropical multi-species demersal fishery. Taxonomic work followed, to describe new species of fishes and produce field guides to the deepwater fishes and crustaceans. Museum participation enabled large collections of invertebrates to be made from this previously unsampled area.

A branch of the Australian Institute of Marine Science (AIMS) has operated in WA since 1995. AIMS is monitoring the status of coral and fish communities on atolls off north-western Australia before and after a severe coral bleaching event in 1998. The fauna of submerged banks in the Timor Sea was surveyed using remotely operated video cameras, and in 2000–02 video was used to explore the biodiversity off North West Cape, from 50–900 metres, with samples of the biota collected for comparison with other areas of a similar depth.

The Centre for Fish and Fisheries Research at Murdoch University was developed by Professor Ian Potter from 1976. Over 200 publications by Professor Potter and his students on aspects of the biology of lampreys

and fishes, particularly of rivers, estuaries and coastal embayments in south-western Australia have followed. Some of this work was integrated with Ernest Hodgkin's estuarine studies in *Swanland* by Anne Brearley.

In the 1960s and 1970s expansion of staff and facilities at the WA Museum enabled a series of field surveys to be made of coastal and island marine faunas of tropical and temperate waters from Cocos (Keeling) Islands, Christmas Island and from Ashmore Reef in the north to Esperance in the south. Although the existence of offshore coral reefs in the North-West was known for over a hundred years, no assessment of the fauna was made until the 1980s, when museum surveys documented a rich Indo-West Pacific tropical fauna, resulting in a reassessment of Northern Australian zoogeographical regions. Taxonomic research on corals, crustaceans, molluscs, echinoderms and fishes resulted from these surveys.

The marine fauna of Western Australian waters continues to provide exciting research opportunities in deep water and unusual habitats, and many species remain to be discovered and described. **Loisette Marsh**

See also: Coasts; Collections, algae; Fishing, commercial; French maritime exploration; Marine environment; Sharks; Western Australian Museum

Further reading: W. B. Alexander, 'History of zoology in Western Australia, Part II, 1791–1829', *Journal and Proceedings of the Royal Society of Western Australia*, 1 (1916); A. Brearley, *Ernest Hodgkin's Swanland: estuaries and coastal lagoons of south-western Australia* (2005); W. J. Dakin, 'Marine biology in Western Australia', *Journal and Proceedings of the Royal Society of Western Australia*, 1 (1916)

Marriage and divorce laws in Western Australia followed those of England from the time of settlement in 1829, and were all enacted

at the local level until the intervention of the Commonwealth government. Under section 51 of the Federal Constitution, the power to legislate on 'marriage, divorce and matrimonial causes, and in relation thereto, parental rights and the custody and guardianship of infants' was given to the Commonwealth. The Commonwealth parliament did not act on this until it passed the *Matrimonial Causes Act* in 1959 and the *Marriage Act* of 1961, except for three acts during the Second World War in connection with marriages crossing national boundaries.

Before 1959 the state government passed laws in five areas concerning the complex matter of marriage. First came the registration of marriages, which has always remained WA law. A Colonial Ordinance of 1841 required that marriages be registered immediately after solemnisation (4 and 5 Vict No. 9). This was repealed and re-enacted several times before the passage of the *Births, Deaths and Marriages Registration Act* of 1998 (39 of 1998).

The second series of Western Australian laws related to the celebration of marriage, regulated from 1841 by an Ordinance (4 and 5 Vict No. 10) allowing the ceremony to be conducted by either a Church of England minister, in which case a licence did not have to be obtained, or by the Registrar or a minister from another church. Parental consent was required for males under twenty-one years and females under eighteen years. This and other ordinances affecting the solemnisation of marriage were amended in 1856 (19 Vict No. 11) to introduce a more modern form of marriage celebrated by any registered minister or a district registrar. A new act was passed in 1894 for the celebration of marriage (58 Vict No. 11) and was amended several times before 1959 (37 of 1959). The Commonwealth exercised its powers over marriage in 1961, its legislation taking precedence over state legislation. The *Marriage Act* (12 of 1961) followed state acts fairly closely, but now children born out of wedlock could be legitimated by the marriage of their parents. Marriage could be entered into by males over eighteen years and females over sixteen years with the consent of both parties, as long as they were free to marry and did not stand within the prohibited degrees of relationship to one another.

A third matter concerned the property rights of married women. In 1892, two years after Responsible Government was granted, the Western Australian government passed the *Married Women's Property Act* (55 Vict No. 20) following changes made in similar acts in 1870 and 1882 in England. This Act removed most of the restraints on women's right to own property and allowed them to operate independently of their husbands in all aspects of business life. Every married woman was now entitled to hold as her separate property all real and personal property belonging to her at the time of the marriage, as well as wages, earnings, money, and property acquired for her. This Act was amended several times including in 1984 (72 of 1984). In 2003 it was repealed by the *Acts Amendment (Equality of Status) Act* (28 of 2003) because a special act for married women did not reflect the fundamental principle that all adult persons are equal and independent before the law.

The fourth issue to require colonial legislation was divorce. Before the passage of the *Matrimonial Causes Act* in 1857 in England, divorce could only be obtained by an Act of Parliament. In 1863 an ordinance to regulate divorce and matrimonial causes was proclaimed in WA (27 Vict No. 19), adopting new English laws 'as far as the same are compatible with the requirements of the Colony'. This Act allowed three remedies for unsatisfactory marriages, including protection orders, judicial separations and the dissolution of marriage. The only grounds for divorce were adultery by either party, rape, sodomy or bestiality, and the clauses of the ordinance made it very difficult for a woman to obtain a divorce. The *Matrimonial Causes Act* was

amended in an Act of 1879 (43 Vict No. 9) dealing *inter alia* with the right of a wife to refuse to cohabit with a husband guilty of assault against her. The intention of the 1879 Act was to provide better protection for a woman against a violent husband and to give her the custody of children under ten years of age. The *Divorce Amendment Act* of 1911 (7 of 1912), proclaimed in 1912 in WA, introduced several new grounds for divorce, including desertion, habitual drunkenness, incarceration in a lunatic asylum and aggravated assault. Further amendments to WA law followed before the 1959 passage of the Commonwealth *Matrimonial Causes Act* (104 of 1959) was proclaimed in 1961. This Act listed fourteen grounds for divorce and set up an arrangement whereby the state bureaucracies continued to administer the divorce law.

Finally, Acts concerning the protection of women and children against husbands, and the provision of maintenance, also appeared at the end of the nineteenth century. The first such Act was the *Summary Jurisdiction (Married Women) Act* (60 Vict No. 10) passed in 1896 and amended in 1902. The *Married Woman's Protection Act* (28 of 1922), repealing these earlier acts, enabled a woman to apply for an order relieving her of the obligation to cohabit with an offending husband and granting her family maintenance and custody of her children. After amendments in 1926 and 1954, this act was replaced in 1960 by the *Married Persons (Summary Relief) Act* (80 of 1960). This was subsequently replaced by the *Married Persons and Children (Summary Relief) Act* (109 of 1965) dealing with relief for married persons and dependent children, separation orders, custody of children, relief for illegitimate children and orders for maintenance. There were further amendments in 1972 (88 of 1972) and in 1975 by the Western Australian *Family Court Act* (106 of 1975).

The practice of the law gradually revealed that there were some matters connected with marriage, including matrimonial property, maintenance, and the custody and guardianship of children, which were not adequately dealt with under the Commonwealth *Matrimonial Causes Act* of 1959 and the *Marriage Act* of 1961. In order to strengthen Commonwealth power in these matters, the *Family Law Act* was passed in 1975 (53 of 1975), abolishing all grounds for divorce apart from one: irretrievable breakdown of marriage. The 1959 *Matrimonial Causes Act* was repealed by the 1975 *Family Law Act*, which now covered all matters connected with the dissolution of marriage. The Act also created a new Family Court of Australia.

During debate on the Family Law Bill in 1975, the Commonwealth parliament was persuaded by WA interests to add a clause allowing the states to set up their own family court. The only state to follow this path was WA, which was required by the agreement to bring its laws into conformity with those of the Commonwealth. The Family Court of Western Australia is invested with Commonwealth jurisdiction under the *Family Law Act*, the *Marriage Act*, the *Child Support (Registration and Collection) Act* of 1988 and the *Child Support (Assessment) Act* of 1989 and has a support staff of marriage counsellors and welfare workers. It deals with all matters except appeals, which must go to the Federal Court. Under the *Family Court Act* of 1975–76 (WA), judges may hold concurrent appointments in the State and Federal Court and they administer both federal and state law, the latter relating to the maintenance and custody of ex-nuptial children and the adoption and guardianship of children, both matters originally excluded from the *Family Law Act*.

Federal government power expanded between 1986 and 1990, when all the states except WA referred to the Commonwealth their powers with respect to ex-nuptial children. For this and other reasons, the *Family Law Act* has been amended several

times since 1975. This has been followed by amendments to the WA *Family Court Act* in order to conform to Commonwealth law, most recently consolidated in the WA *Family Court Act* of 1997 (40 of 1997). This Act is therefore largely a compilation of clauses taken from the Commonwealth *Family Law Act*.

Three other issues need considering. First, an increase in de facto relationships led in 1972 to the passage in the Western Australian parliament of the *Inheritance (Family and Dependents Division) Act* (57 of 1972) to provide for the proper maintenance, education and advancement of members of families created by such relationships. Second, it is no longer the case that a wife acquires her husband's nationality under marriage laws, nor does a marriage partner automatically become an Australian citizen or have any right to automatic residence in Australia under Commonwealth law. Third, in 1977 the Australian Law Reform Commission was asked to make recommendations concerning the legal recognition of Aboriginal customary law in Australia. It recommended against the general recognition of such marriages on the ground that this might involve consequences that would conflict with traditional Aboriginal customs. Instead, it recommended that Aboriginal customary marriages be recognised for specific purposes, which minimises the danger of 'foisting upon the parties to traditional marriages consequences that have no traditional equivalent and which may be disruptive or counter-productive'. **Penelope Hetherington**

See also: Aboriginal women; Customary law; Children; Gender; Law; Men's movement; Women's refuges
Further reading: A. Dickey, *Family law* (1997); H. A. Finlay, R. Bailey-Harris and M. F. A. Otlowski, *Family law in Australia* (1997); E. Russell, *A history of the law in Western Australia and its development from 1829 to 1979* (1980); J. Scutt, *Women and the law: commentary and materials* (1990)

Massacre, Flying Foam This is how the Yaburara people recall the Flying Foam massacre. In February 1868 a group of the local Yaburara people were living at a freshwater spring at Murujuga, what is now called Burrup Peninsula, in the Pilbara region of Western Australia, about five kilometres from Dampier. Some pastoralists and pearlers from the white settlement nearby went into the camp of the Yaburara people and started mucking up with the women. This caused trouble between the pastoralists, pearlers and the local people.

Yaburara men, including Coolyerberri, Woolgelgarry, Eurunbiddy, Mullangough and Weenyon, killed a pearler named Breen, who was said to have raped one of their women, and Constable Griffis, a policeman who came to arrest them, and his tracker, Peter. In revenge, a group of pastoralists, pearlers and police herded the Yaburara people on to a small peninsula in King Bay. A boat full of people also came around the peninsula. When they had the Yaburara people surrounded, they shot at them. David Carly, who was near there at the time, said at least sixty people were killed. Others, including some of the men named above, were sent to Rottnest Island prison.

Those who survived returned to the site and placed standing stones on a hill overlooking the site as monuments for the people who were killed.

We call this the Flying Foam massacre. **Trevor Solomon**

See also: Massacres; Pearling
Further reading: J. B. Gribble, *Dark deeds in a sunny land* (1987); N. Green and S. Moon, *Far from home: Aboriginal prisoners of Rottnest Island 1838–1931* (1997)

Massacre, Forrest River The alleged massacre at Forrest River followed the discovery, on 25 May 1926, of the body of pastoralist Fred Hay at Nulla Nulla pastoral station in the East Kimberley. Constables Denis Regan

and James St Jack investigated, accompanied by special constables Bernard O'Leary and Richard Jolly, O'Leary's 'boy' Charlie, and five police assistants, Jacob, Sulieman, Frank Comberoo, Windie Joe and Jim McDonald. Other members of the party were Daniel Murnane, Leopold Overheu, and Overheu's workers, Tommy and Lyddie Goolara. All, with the exception of Goolara, were armed.

The special constables were discharged at the Anglican Forrest River Mission on 24 June, and Regan, St Jack and their trackers, guided by mission men Herbert Oomar and Matthew Aldoa, continued the search. On 4 July they returned to the mission with the accused man, Lumbia, and a number of witnesses.

On 30 July 1926, the Rev. E. R. B. Gribble (the son of the Rev. J. B. Gribble, 1847–1893), the superintendent of Forrest

A cairn commemorating the Forrest River Massacre was erected on 12 December 1927. Pieces of bone collected by Aboriginals at the alleged murders are said to be under this cairn. Doris Morgan, a young woman in 1927, said that all the mission people carried stones to make the memorial. Courtesy Neville Green

River Mission, informed the Chief Protector of Aborigines, A. O. Neville, that Aboriginal people had reported a number of murders by the police party. The claims were investigated by Aborigines Inspector Ernest Mitchell, Police Inspector William Douglas and Detective Sergeant Manning.

In January 1927, Magistrate G. T. Wood conducted a Royal Commission, 'Inquiry into alleged killing and burning of bodies of Aborigines in East Kimberley and into police methods when effecting arrests', and concluded that eleven people were murdered and their bodies cremated to conceal the evidence. In May 1927 Constables James St Jack and Denis Regan were charged with the murder of Boondung, one of the eleven, but at a committal hearing at Perth in July and August, Magistrate Kidson found there was insufficient evidence to go to trial. The constables were discharged and returned to duties.

How many were allegedly shot by the patrol? Rev. Gribble claimed twenty-nine were missing and Commissioner Wood concluded that eleven were killed. Three anthropologists who interviewed Forrest River Aborigines and accepted the murder view are Dr A. P. Elkin (1928), Dr Phyllis Kaberry (1934) and Dr Karl Reim (1964). Dr Neville Green and Dr Christine Halse, who, as historians, researched the police and Aboriginal files that hold signed witness statements, and interviewed men and women who recalled the events of 1926, agreed that there was a massacre. In contrast, based on a disassembly of the testimony at the Royal Commission, investigative journalist Rod Moran insisted that none were murdered. **Neville Green**

See also: Frontier violence, Kimberley; Massacres; Royal Commissions and Inquiries, Indigenous

Further reading: N. Green, *The Forrest River massacres* (1995); C. Halse, *A terribly wild man* (2002); R. Moran, *Massacre myth* (1999)

Massacre paintings Non-Indigenous colonial intrusion into the East Kimberley region was often violent and always disruptive to its existing Indigenous populations and societies. Massacres and killings of local people by late nineteenth- and early twentieth-century intruders to the region figure prominently in Indigenous memories of its 'early' or 'wild days'. They recall many killings, unprovoked and ultimately unpunished by a European legal system with little or no interest then in whether Aboriginal people lived or died. Usually un-laboured in the telling, the grim stories of the events continue to speak strongly to Indigenous perceptions of the East Kimberley's troubled history.

Indigenous artists of the East Kimberley have not typically explored historical themes in their work, except perhaps in contemporary music and literary output. Standing apart from this generalisation is famed painter Rover Thomas (c. 1926–1998), and the 'massacre paintings' he produced from the mid 1980s. The term 'massacre' has been used loosely here to refer to any killing, single or multiple, associated with the early days. Among the massacre sites depicted by Thomas were places at Bedford Downs, Texas Station, Ruby Plains, Horseshoe Creek, and Mistake Creek.

Thomas's 'massacre paintings' have been regarded by some as distinguishable by subject matter and theme from his other works, including the *Kurirr Kurirr* paintings. In truth, they are not sharply demarcated: there are evocations of massacres in *Kurirr Kurirr* and other Thomas paintings; and common to all is his minimalist representation of 'country' and its associated cosmological and historical narratives. Scattered sources refer to Thomas's 'massacres paintings', but, like his corpus as a whole, they await more thorough attention. **Will Christensen**

See also: Aboriginal art, Indigenous perspectives; Aboriginal oral history; Frontier violence, Kimberley; Kurirr Kurirr ceremony; Massacres

Massacre, Pinjarra The event known both as the Pinjarra massacre and the Battle of Pinjarra took place on 28 October 1834 at the settlement of Pinjarra on the banks of the Murray River, 85 kilometres south of Perth. A military attack, carried out by a troop of white soldiers led by Governor Sir James Stirling on a group of Aborigines said to be responsible for the deaths of several white settlers, it has been mythologised in writings locally and nationally.

After the British government established the Swan River colony in 1829, Thomas Peel took up a grant of 250,000 acres of fertile land from Cockburn Sound to the Peel Inlet, including the right bank of the Murray River to Pinjarra nearly to the Darling Ranges. Peel claimed the local Pinjarup Nyoongar had to be 'pacified' because they were destroying settlers' stock, crops and buildings. Governor Sir James Stirling, referring to the ferocity of the Pinjarup Nyoongars, who had also been implicated in a raid in 1834 on Shenton's Mill in South Perth and in the death of a settler, agreed.

The attack began at around eight thirty in the morning and lasted about an hour and a half. One mounted policeman, Captain Ellis, was mortally wounded and another was speared in the arm. Eight Aboriginal women and several children were taken prisoner. The number of Aborigines killed is not clear.

Accounts of the event differ significantly. While John Septimus Roe described the actions of the attackers as 'sufficiently exemplary', Joseph Hardy's diary described a 'shocking slaughter' and 'more so than needed'. George Winjan (son of the chief or 'king' Dower), who was reputed to have witnessed the massacre as a small child, later said, 'they rush camp, they shoot-em man, shoot-em gins, shoot-em piccaninnies and they shoot-em dogs too'. Later critical accounts also described the events as a blot on Western Australia's escutcheon. Estimates of Aboriginal mortality range from two hundred to three hundred, down to about twenty. One diarist who numbered the Aboriginal dead at about eighty,

described the bodies of Nyoongar left floating down the river. There is no doubt, however, that women and children were involved. The carnage was later dignified with the name of 'the Battle of Pinjarra', and was painted as a wall mural by a captain of the 2nd Life Guards, with Sir James Stirling depicted in the foreground. **Len Collard**

See also: Aboriginal resistance, South-West; Massacres; Peel region
Further reading: A. Burton, 'The diary of Joseph Hardey', *Western Australian Historical Society journal and proceedings*, 1, 6 (1929); R. Richards, *The Murray District of Western Australia: a history* (1978)

Massacres A massacre, by dictionary definition, is the slaughter of unresisting persons regardless of number. In Western Australia the Battle of Pinjarra (1834) and the Forrest River claims (1926) are well known. Lesser-known tragedies found in the Kimberley police records include six men killed by Sergeant Troy near One Arm Point (1885); twenty-three people shot in the East Kimberley following the murder of Constable Collins (1886); and five people killed for sport at Goose Hill, south of Wyndham, in 1888. Between 1894 and 1897 at least fifty Aborigines were shot dead in the Fitzroy River Valley during the police hunt for Jandamarra, alias Pigeon, and in 1899, armed and unsupervised Aboriginal police trackers killed nine Aborigines on the western side of the Cambridge Gulf.

Massacre reports appearing in letters, diaries and newspapers include La Grange (1864), following the discovery of the bodies of four settlers; and Flying Foam (1868), after the murders of a policeman and two others. A massacre following the fatal spearing of John Durack in 1886 is alluded to by Mary Durack in *Kings in Grass Castles*. George Hale, in letters to his mother the same year, described a punitive expedition near Halls Creek in which at least forty people were murdered after a

prospector was fatally speared. At Mowla Bluff, south-east of Derby, a pastoralist allegedly shot Aborigines (c. 1910 and 1915) and Aborigines reported police shooting people at the Durack River (1922), west of Wyndham. An oral historian has recorded ten massacre sites in the east Kimberley, including Mistake Creek (1915) and Bedford Downs (c. 1922).

In the present 'history wars', conservative historians have challenged a number of massacre claims, including Pinjarra, Forrest River, Durack River, Mistake Creek and Bedford Downs, pointing to the absence of evidence, the unreliable nature of inherited oral stories, and the lack of logic in some claims. About 480 people are said to have been shot and buried at Wonnerup (1842) near Busselton, but critics query whether 480 people would have waited around while a handful of settlers kept reloading and firing single-shot muzzle-loading muskets. And who would have buried the dead? Could families be shot in Kings Park, so close to the city, without an official or newspaper report? Could Rottnest prisoners have been illegally guillotined on Rottnest jetty when neither a guillotine nor a jetty existed? In each story there is an element of fact that has been distorted by time and in the telling. There was a punitive expedition at Wonnerup. There was a rifle range in Kings Park in the 1890s; and five men were legally executed on Rottnest—by hanging. The evidence presented on both sides of the debate requires careful and continuing scrutiny. **Neville Green**

See also: Aboriginal oral history; Aboriginal resistance, South-West; Frontier violence, Kimberley; Massacre, Flying Foam; Massacre, Forrest River; Massacre paintings; Massacre, Pinjarra
Further reading: C. Clement, 'Mistake Creek', in R. Manne (ed.), *Whitewash: on Keith Windschuttle's Fabrication of Aboriginal History* (2003); I. Crawford, *We won the victory: Aborigines and outsiders on the North-West Coast of the Kimberley* (2001);

N. Green, *Broken spears*: *Aborigines and Europeans in the southwest of Australia* (1995); N. Green, *The Forrest River massacres* (1995); R. Moran, *Massacre myth* (1999); P. Patrick, 'Statement on Mistake Creek', in R. Manne (ed.), *Whitewash: on Keith Windschuttle's Fabrication of Aboriginal History* (2003); H. Ross (ed.), *Impact stories of the East Kimberley* (1989)

Master and Servants Act In colonial Western Australia, the earliest regulations governing employment concerned indentures, since most labour consisted of workers bonded to their employers. As no legal system existed in the new colony, in 1829 Lieutenant-Governor James Stirling introduced a body of rules governing the relations between employers and employees. The framework so inaugurated was both imprecise and weighted against employees: for example, the latter could be imprisoned for breaches of contract, but not their employers. Consequently, problems soon arose and attempts at solution led in 1842 to the passage of Western Australia's first Masters and Servants law. Here again there was bias; yet with numerous amendments the law survived until 1892. During that period of fifty years there were notable changes in the persons covered by the Act. The use of indentures died out as free immigrants and the locally born increased, and the introduction of convicts after 1850 brought expirees, ticket-of-leave and conditional-pardon men into the labour pool. Simultaneously, Aboriginal people entered the workforce, in particular finding employment in the pearling industry, under conditions not adequately treated by existing Masters and Servants legislation. To meet this exigency, ordinances were passed between 1871 and 1883, creating a body of laws supplementary to the *Masters and Servants Act*. These controlled accommodation on board the luggers and forbade the employment of Aboriginal women as divers, since they were being abused. Thereafter, Aboriginal people increasingly took employment on farms and stations, and the colonial government decided that for cultural reasons they were best treated differently. In 1886 they were accordingly brought under the *Aborigines Protection Act*, which functioned alongside the Masters and Servants law.

The number of convicts in the colony gradually reduced after the cessation of transportation in 1868. Nonetheless, the workforce continued to grow, sustained now by the locally born and gold-seeking immigrants. This social change brought a liberalisation of the law. In 1886 it became more difficult to imprison servants, and in 1892 master and servant were made equal in relation to breaches of contract. If either defaulted, judges were empowered to order imprisonment. Additionally, women were exempted from the application of the law relating to imprisonment. The 1892 Act repealed all previous Masters and Servants laws and was the last of that title in WA. Laws enacted after that date gave new meaning to the labour contract and passed easily into the conciliation and arbitration system of twentieth-century Australia. **Ian H. vanden Driesen**

See also: Aboriginal labour; Aboriginal legislation; Conciliation and arbitration; Convicts; Convicts, conditional pardon; Convicts, ticket of leave; Work, paid; Workers

Further reading: F. K. Crowley, 'Master and Servant in Western Australia 1829–1901', *Early Days: Journal of the Western Australian Historical Society*, 4, 5 (1953) and 4, 6 (1954); J. Gothard, 'Protecting labour: Carrie Hall and the Masters and Servants Act', *Papers in Labour History*, 6 (1990); I. H. vanden Driesen, *Filling in the gaps: five essays on the labour history of Western Australia* (2003)

Mechanics' institutes The first mechanics' institute in Western Australia was the Swan River Mechanics' Institute, founded in Perth in 1851. This was the forerunner to a movement

that resulted in institutes throughout the colony by the turn of the century. The mechanics' institute movement, which had begun in Britain in the 1820s, offered working-class men the opportunity for self-improvement. In colonies sometimes lacking other cultural and social organisations, the institutes attracted members from the labouring, trades and professional classes and offered a place for members to meet, relax, learn and discuss current issues. While their regulations explicitly forbade discussions of a political nature, this was often ignored by members, on one occasion in 1856 resulting in the expulsion of the radical cabinet-maker Joseph Chester from the Swan River Mechanics' Institute for criticising current government policies. On the whole, however, labelled as non-political bodies, they received government patronage and financial support in the form of annual grants and land for building.

In WA, distance and community size affected the ability of the institutes to fulfil their roles as educational institutions, but their great strength was the establishment of premises with libraries and reading rooms. Initially only for men, by the end of the nineteenth century they became open to all the community and evolved to become local subscription libraries for anybody who could afford the subscription. Their importance declined after the First World War, as other publicly funded educational institutions developed and the institutes lost membership and relevance. By the middle of the twentieth century few remained in existence.

Mechanics' institutes were the forerunners of public libraries and adult and technical education and, importantly, offered members the opportunity to develop political and social skills through debate and social interaction with the more powerful in society. **Jan Partridge**

See also: Libraries; Technical Education
Further reading: B. de Garis, 'Political tutelage, 1829–1890', in C. T. Stannage, *A new history of Western Australia* (1981); J. Laurent, 'Mechanics' Institutes and the labour movement: a case study of the West Australian goldfields, 1895–1917', *Melbourne studies in education*, 29 (1988); B. J. Smith, 'Early Western Australian literature: a guide to colonial life', *University studies in history*, 4, 1 (1961–62); R. J. Sumner, 'Nineteenth century British working class adult education: a model for Australian colonial efforts', *Australian journal of adult and community education*, 30 (1990)

Medical practice in Western Australia has been based upon and closely follows medical practice in England, but has been modified by local conditions: low population density; long distances; poor and slow communications, and, until comparatively recently, lack of a medical school and graduate education.

The first doctor to practise in WA was Isaac Nind, surgeon to the settlement at King George Sound in 1827. He performed the first western surgical procedure in WA when he treated a seaman with a spear injury after a clash with local Aborigines. Stirling's expedition to the Swan River colony included both a physician and medical supplies—medicines, utensils, bedding, hospital dresses (such as pyjamas), circular tents and trestles for field bedsteads. The physician, Dr Charles Simmonds from Yorkshire, dealt with minor illnesses, births, and later with diarrhoeal diseases. His tent served as both home and hospital. Simmonds died suddenly of unknown causes in October 1831, and was succeeded as colonial surgeon by Dr Alexander Collie, who was to die of tuberculosis at Albany in 1835. Other important medical figures of the early years were Dr William Milligan and Dr J. P. Lyttleton. Milligan, an Edinburgh graduate, arrived as Military Surgeon in 1830 with his family, was medical officer to the Peel expedition, and was responsible for the first hospital in the colony.

At the end of 1830 there were 20 doctors in a population of 1,800 immigrants, an extraordinary ratio of 1:90. They were a motley crew, including military surgeons on half-pay, settlers desirous of a new start in life, and invalids lured by reports of a healthy environment. Some were of extremely dubious professional ability. They had a high mortality: six of them died in the early years from causes varying from trauma to alcoholism and tuberculosis. The medical conditions they encountered in the colony were mundane. As well as obstetrics and trauma, there were infections and fevers, notably dysentery, scurvy, apoplexy and minor illnesses. Their pharmacopoeia contained few drugs of true value, notably morphine and digitalis. There were no anaesthetics, which greatly restricted the scope of operative surgery. As far as possible they kept in touch with medical thought and their mortality figures were as good as or better than those in England, due in part to the younger age structure of the colony. Overall, the major causes of death up to 1835 were trauma (16 per cent), fevers (12 per cent), pulmonary disease (largely tuberculosis) (14 per cent), and infant deaths (11 per cent). The cause of death was unknown in 20 per cent of cases.

As the colony expanded, besides the initial establishments at King George Sound (1827), Perth and Fremantle (1830), medical outstations were established at Augusta (1832), Guildford, Bunbury, York and Port Gregory. Acceptance of the germ theory of infectious disease revolutionised public health, although it was many years before it modified curative medicine. The discovery of anaesthetics in the mid nineteenth century, and the introduction of Listerian asepsis, including the sterilisation of instruments to reduce the chance of infection, made possible the progressive scope and efficiency of surgery. These changes reached WA rapidly. The first use of anaesthetics in the colony occurred within a year of their use in England.

Major medical figures at this time included Dr John Ferguson, who served the colony from 1846 to 1872. He was principal medical officer for many years, and became president of the first State Medical Board when it was founded in 1870. The first physician to have been born in WA was Dr Alfred Waylen, who qualified in England and succeeded Ferguson as colonial surgeon in 1872. Dr T. H. Lovegrove (acting colonial surgeon from 1889 and colonial surgeon from 1895 until his retirement in 1908) was responsible for a great expansion of hospitals in the colony from nine to thirty. The first State Medical Register in 1870 listed seventeen names, of whom eleven had medical qualifications, and six had previously been in practice. When the Medical Board was reconstituted in 1894, with Alfred Waylen as president, the Register contained 86 names. Nearly all had British qualifications. This growth in numbers was a response to the expansion of the colonial population and the major epidemics in the goldfields.

The twentieth century saw major changes. Federation heralded changes in public health, such as in customs and quarantine, as well as the formation of Army Medical Services. The rise of laboratory medicine was foreshadowed by the establishment of the State Health Laboratory Services in 1902 under the direction of Dr G. H. S. Blackburne. The Western Australian branch of the British Medical Association was formed on 2 September 1898, with Alfred Waylen as first president. This later became federated with branches in other states to become the Australian Medical Association. Western Australian doctors also served in the Boer War, with Captain W. Gibson mentioned in dispatches for bravery. The First World War and the Depression impinged upon medicine without causing major changes. Services expanded, and more hospitals were built. Communications improved, notably with the formal establishment of the Aerial Medical Service (later the Royal Flying Doctor Service) in 1928.

The need for undergraduate and graduate medical education, emphasised by advancing

knowledge, began a movement leading ultimately to the establishment of a medical school at The University of Western Australia in 1955. Among its first fruit was the production of a local medical journal, *Western Australian Clinical Reports*, in July 1936. However, it was forced to close in 1940 under the pressures of the Second World War. During the war, many Western Australian doctors served in the forces in Australia and overseas, including several who spent long periods as prisoners of war. The home services were stretched, with many temporary appointments to senior hospital positions.

The postwar period saw explosive advances in diagnosis and therapeutics. Discoveries in laboratory methods and imaging equipment led to a quantum jump in precision of diagnosis. Therapeutic advances resulted from the introduction of new drugs, such as those for treating cardiac disease and malignancy, and antibiotics. The scope of surgery increased to involve all organs including the heart. In addition, the success of public health measures, such as the anti-smoking campaigns, has increased longevity for both sexes.

The results of these changes have been profound. New equipment is typically large and costly, and therefore used in large hospitals almost exclusively, to the detriment of local hospitals and practitioners. More people survive into old age, when they incur higher medical needs and costs. All this has raised the costs of the health services to a level that puts a strain on the state budget, and leads to delays in treatment including surgery and cancer therapy, with *de facto* rationing of health care. The problem is accentuated by the introduction of politically useful but often financially disastrous health services, funded by tax revenue, and without payment at the place of service.

Hospitals have increased in relative importance compared to general practice, and have become large bureaucratic institutions dominating the health picture and requiring progressively more of the health budget. General practice has undergone a comparative decline. Its scope has been slowly restricted and recruitment has become more difficult. More practices now comprise groups of doctors with restricted hours, owned by large companies, often from outside the state, and in some instances international. The problem of recruitment has been greatest in country areas. In 1987 a committee chaired by Professor Max Kamien investigated the problem. Its report led to the formation in 1989 of the Western Australian College of Remote and Rural Medicine, which became a national college in 1997.

Medical and other professional input to health decisions has greatly declined, and has been replaced by a burgeoning bureaucracy. At present, major decisions are made upon political, financial, legal and administrative grounds. Few of those involved have had direct one-to-one contact with sick people. It remains to be seen whether the system can meet the emerging problems in an ageing population, at a time of diminished social coherence. **R. A. Joske**

See also: Asthma; Cancer; Cardiology; Child health; Colonial health; Fremantle Hospital; HIV–AIDS; Infant mortality; Influenza epidemic; King Edward Memorial Hospital (KEMH); Mental health; Mount Hospital; Poliomyelitis epidemic; Public health; Repatriation hospitals; Royal Flying Doctor Service; Royal Perth Hospital; Tuberculosis; Typhoid epidemics; University of Western Australia

Further reading: B. C. Cohen, *A history of medicine in Western Australia: being a biographical and historical account of medical persons and events from the earliest days until the formation of the Western Australian Branch of the B. M. A.* (1965); R. A. Joske, 'The establishment of the School of Medicine in Western Australia', *Early days: Journal of the Royal Western Australian Historical Society*, 10, 6 (1994); R. A. Joske and E. J. P.

Joske, 'Mortality patterns in Western Australia 1829–1855, *Medical Journal of Australia*, 1 (1979)

Men's movement The men's movement is a network of men's groups and men's events dedicated to exploring and changing the meanings and behaviours associated with manhood. It emerged in response to the women's movements and profound changes in gender relations.

Influenced by US developments, activity in Australia can be traced back to the mid 1970s but appears to have begun in WA in the mid 1980s. Men's groups, offering personal support, healing and networking, have been the backbone of the men's movement. The movement also includes men's gatherings, the provision of services to men, lobbying and political activism. Most participants are aged between thirty and fifty and from middle-class and working-class backgrounds. They are usually Anglo-Celtic, however, Aboriginal and Maori men play important roles in some men's events and men's health is a growing area of Indigenous activity.

Four areas of concern are common to most men's groups: health; education; interpersonal violence; fathering and family law. One of the longest running organisations, the Men's Health and Wellbeing Association (WA), was active over 1994–2002. It held residential forums for men, worked with boys in schools, conducted Father's Day events, and contributed to the development of men's health policy. Like nearly all men's groups in WA, it was volunteer-based.

The men's movement is politically diverse. One of the earliest organisations, the Men's Confraternity, is a 'fathers' rights' group. Founded in 1985, it has focused on service provision and political lobbying, particularly to change family law and the Family Court, which it perceives as 'anti-male', 'anti-father' and feminist-dominated. Many men's groups in WA are less overtly anti-feminist,

and concerned with personal and spiritual growth. The pro-feminist men's group Men Against Sexual Assault was active in WA in the early 1990s and continues to be active in other states.

In 2004 there were about thirty to forty men's groups and organisations in WA with an active membership of 300 to 600. There is growing institutionalisation and professionalisation of men's movement activity. Curtin University established men's health courses in 1996, hosting the Second National Men's Health Conference (1997). The tenth annual Australian and New Zealand Men's Leadership Gathering was held in Perth in 2001. The Men's Advisory Network (1997–) received government funding in 2002–03. **Michael Flood**

See also: Feminist movements; Gender; Marriage and divorce
Further reading: B. Pease, *Men and gender relations* (2002); R. W. Connell, *Masculinities* (1995); M. Flood, 'Men's Movements', *Community quarterly*, 46 (1998)

Mental health and mental illness are matters that concern all societies, and it is safe to assume that traditional Aboriginal communities were no exception. The first European settler in Western Australia to suffer recognised mental illness was, somewhat ironically, a medical doctor, Nicholas Langley (1800–1835), who fell ill in 1830. Langley was secured on a ship, the *Marquis of Angelsea*, at Fremantle, which became, in effect, the colony's first psychiatric facility (Langley was later moved to the Roundhouse prison). In 1857 a facility attached to the Fremantle Prison was established to house the few mentally ill patients who had previously lived among the prisoners, under the supervision of Dr George Attfield (1822–1923). A purpose-built asylum was opened at Fremantle in 1865, also under Attfield's superintendency. Attfield experimented with 'total non

restraint', a movement originating in Britain in the 1830s that aimed to do away with mechanical means of restraint in favour of behavioural modification programs. In 1871 an Act was passed which governed the admission, treatment and discharge of patients in the colony, and which sought to establish safeguards against wrongful confinement. Control over psychiatric services passed from the Imperial authorities to the Western Australian government in 1886.

By the turn of the century, Fremantle Asylum had grown overcrowded, and another facility was opened in 1897 at Whitby Falls, 50 kilometres south-east of Perth. This only partly alleviated the problem of patient numbers, and a large-scale asylum was built at Claremont in 1903, under the governorship of Belfast-born Dr Sydney Montgomery (1870–1916). Diagnosis and treatment during these early years reflected nineteenth-century models which distinguished 'moral' (or 'mental') causes from physical ones: the former included religious fanaticism, disappointed love, business failure and loneliness, while among the latter, alcoholism figured prominently. Custody and isolation from external influences formed the predominant bases of therapy. By the 1930s physical therapies included inoculation, with malaria as a treatment for syphilitic insanity, and insulin-induced comas, although success rates were low.

After the Second World War, Graylands Hospital was opened, originally as a day-centre, in line with a worldwide move away from custodial care and following a growing community willingness to accept that mental illness was not necessarily coterminous with murderous frenzy. This experiment proved to be short-lived, however, and Graylands soon became a custodial facility. The patients' lot was often not a happy one, and a national report in the 1950s observed that WA was lagging behind the eastern states. Heathcote (established 1929) was found to provide excellent early treatment, but Claremont was

isolated and overcrowded, and outpatient services were wanting.

Since the 1960s, and in response to a growing clamour against institutions, the state government began removing patients from mental hospitals and relocating them in the community. Deinstitutionalised patients could now access treatment in mainstream hospitals. WA psychiatrists also began using an array of new medical interventions, including Chlorpromazine and Lithium, drugs which could manage mental conditions without the need for custody. An array of community-based support and advocacy groups, springing mainly from church and family organisations, has been present in the state. These include the Western Australian Association for Mental Health, the Association of Relatives and Friends of the Mentally Ill (formerly the Mental Health Association), the Schizophrenia Fellowship, and the Richmond Fellowship. Yet mental health policy since deinstitutionalisation has been controversial. The Human Rights Commission's Burdekin Report of 1993 presented a damning indictment of the neglect of mental health by state and federal governments. It is a neglect that continues in WA today. **Paul Laffey**

See also: Medical practice; Public health
Further reading: A. S. Ellis, *Eloquent testimony: the story of the Mental Health Services in Western Australia, 1830–1975* (1984); M. J. Lewis, *Managing madness: psychiatry and society in Australia 1788–1980* (1988); R. Virtue, 'Lunacy and Social Reform in Western Australia 1886–1903', *Studies in WA History*, 1 (1977)

Merchant shipping The Western Australian coastline twists and turns for 12,500 kilometres from Eucla in the south to Wyndham in the north. A merchant ship must sail 5,000 kilometres to make this journey safely, equivalent to a voyage from Fremantle to Cape Town. From 1829 to 1886, as each hinterland

and coastal resource was developed, small communities were established. These had to be serviced by shipping carrying a full range of machinery, commercial and domestic goods plus foodstuffs and, most importantly for the remote, isolated communities, the Royal Mail, to enable them to survive the rigours of early settlement. Merchant shipping was the lifeline on which every Western Australian depended.

The ships involved in this trade initially came to Fremantle from Britain or the eastern Australian colonies. As outlying communities were gradually established, a local fleet of small sailing vessels provided a cargo and passenger service which, by 1860, served Geraldton, Dongara, Bunbury, Busselton and Albany. The latter port was an important 'staging post' for passenger-mail ships en route to eastern Australia from Cape Town. Passengers and mail for Western Australian destinations landed there and were transported onwards either by sea or stagecoach. Similarly, passengers going 'Home' embarked there on west-bound ships. The port also had a flourishing coal-bunkering trade, replenishing fuel to enable ships to proceed east across the bight or west to Cape Town. These services declined once Fremantle's inner harbour was developed and the Suez Canal opened. The outlying settlements of Esperance and Eucla had to depend on infrequent visits from ships calling while en route from Sydney and Melbourne to Fremantle. Northern settlements in Shark Bay, Carnarvon, Exmouth Onslow, Cossack, Port Hedland, Broome, Derby and Wyndham had to be content with occasional visits from British Trinder Anderson ships, and after 1891 from ships of the Blue Funnel Line, owned by A. Holt of Liverpool, based at Singapore.

Changes in ship propulsion from sail to coal-fired steam machinery, and the opening of the Suez Canal in 1869, reduced the voyage time from Europe from months to weeks. Gradually, with the advent of steamships, small sailing vessels on WA coastal routes were phased out in the 1870s. However, the cost of building and running steam-driven ships was generally beyond local resources, and the coastal cargo-passenger trade became the province of eastern colony ship owners Adelaide Steamships, McIlwraith McEacharn and others. There were, however, two locally owned and operated ships in service in the 1870s. Western Australia's first coastal steamship was the iron-hulled *Xantho* (40 tons), which sank in 1872 at Port Gregory after completing only two voyages. SS *Georgette* (211 tons) provided a monthly mail service from Geraldton to Albany, until it was wrecked in 1876 between Cape Naturaliste and Cape Hamelin. It is remembered for the heroic rescue of its passengers by Grace Bussell and Sam Isaacs, and its earlier involvement in the escape of Fenian convicts on the American whaling barque *Catalpa*.

The gold boom of the 1890s increased the colony's wealth and population, but most of the ships serving WA continued to be foreign-owned. After 1889, ships of the Blue Funnel Line owned by A. Holt of Liverpool began operating a regular service between Fremantle and Singapore. Following continued representation by people in outlying coastal settlements, in 1912 the Scaddan Labor government established a State Steamships Service, one of a number of vital, though unprofitable, government services set up at this time. The State Shipping Service, as it was renamed in 1919, was the lifeline to outlying communities. It supplemented visits from the Blue Funnel Line ships *Gorgon* and *Centaur*, which travelled between Singapore, northwest ports and Fremantle up until 1982. State ships, the SS *Western Australia*, SS *Kwinana*, MV *Kangaroo*, and SS *Bambra*, before and during the First World War, and the MV *Koolinda*, MV *Kybra*, MV *Koolama* and MV *Chungking* in the interwar years, were familiar in ports around the state. But the gradual spread of a network of railways and sealed roads (to Albany in 1939, Esperance in 1962, and Eucla in 1969), and the introduction of

regular air passenger services in the 1960s, eroded the need for a coastal sea passenger service. Interstate passenger ships ceased in 1961, and the State Shipping Service passenger service ended in 1970, unable to compete with the speed and frequency of aircraft schedules. The last passenger was carried in 1973. The cargo fleet of the State Shipping Service, however, had expanded to service agricultural development associated with the Ord River Dam and the massive development of the Pilbara iron ore mines, railways and port complexes. State ships introduced in the postwar years—*Dorrigo*, *Dulverton*, *Delamere*, *Daylesford*, *Denman*, *Yanderra*, *Marr*, *Yarrunga* and *Dongara*—were joined by cargo-passenger ships *Koojarra*, *Koolama II*, and *Kangaroo II*. In 1965, in response to technological change, the WA Coastal Shipping Commission (the restructured State Shipping Service) was established to re-equip state ships for unit load and container cargo operations. The older ships were replaced by three crane-equipped cargo ships—*Wambiri*, *Beroona* and *Nyanda*—and the cargo service expanded to Darwin, Westernport, Burnie and Melbourne. With further technological improvements, they in turn were replaced by multipurpose vessels *Pilbara*, *Koolinda* and *Kimberley* in 1980, and the east–west service expanded to include Newcastle and Hobart.

By the 1980s containerisation had replaced labour-intensive piecemeal cargo handling and the time in port had been cut from weeks to hours, reducing the need for a large fleet. The *Kimberley* was replaced by the larger container vessel *Irene Greenwood* in 1984. In the late 1980s the service contracted and the existing vessels were replaced by the smaller ships *Frank Conecney*, *Roberta Jull* and *Gordon Reid*. Stateships (as the organisation had been renamed in 1979) finally closed in 1995 in controversial circumstances, ostensibly because it had become uneconomical, but its demise was also exacerbated by political and commercial pressure from overseas shipping interests.

In 2004, Western Australia's major ports for merchant shipping, in order of tonnage, were: Dampier (liquified petroleum gas and iron ore); Port Hedland (iron ore); Fremantle (petroleum products, alumina, refined petroleum, wheat, as well as a variety of general cargo); Bunbury (alumina, mineral sands, wood chips); Esperance (iron ore, wheat); Geraldton (wheat, mineral sands); Albany (wheat, barley, woodchips); and Cape Lambert (petroleum products). Ships from all over the world call at these ports. Dampier, for example, was visited in 2004 by 2,510 commercial vessels with an average gross registered tonnage of more than 30,000 tonnes per ship. Of seventeen members of the Australian Shipowners Association, however, only two are based in WA: Australian LNG Ship Operating Co. Pty Ltd, and North West Shelf Shipping Service. **Tony Fletcher**

See also: Albany; Blue Funnel Line; Bunbury; Esperance; Fenians; Fremantle; Geraldton; Iron ore; Mining and mineral resources; Ord River scheme; Port Hedland; Transport; Wyndham

Further reading: F. J. A. Broeze, *Island nation: a history of Australians and the sea* (1998); F. J. A. Broeze and G. Henderson, *Western Australians & the sea: our maritime heritage* (1986); T. K. Fitchett, *The vanished fleet: Australian coastal passenger ships 1910–1960* (1976); A. M. Stephens, with officers of the Western Australian State Shipping Service, *The stateships story, 1912–1977* (1977)

Meteorology developed separately in each Australian colony. In Western Australia a Meteorological Branch was added to the Surveyor-General's Department in 1876, and transferred to the Government Astronomer when appointed in 1896, the key responsibility being that of maintaining records. Following federation, the Commonwealth Bureau of Meteorology came into being on 1 January 1908, linking the meteorological offices in all states for the first time.

Early meteorology consisted of merely maintaining records and statistics of weather conditions. This was a duty often allocated to the Astronomer. Hence, the Bureau of Meteorology occupied part of the Observatory in West Perth until 1967, when greater accommodation needs necessitated a move to the eastern end of Wellington Street. Finally, in 1991 the Bureau moved to its present location in Hay Street, near Parliament House, returning almost to its original location. In 1908 the WA Bureau had a staff of four people; in 1975 this had become two hundred.

In the early twentieth century, only very localised prediction was possible, based on weather knowledge contained in proverbs, sayings and personal experience. The development of the telegraph in the 1870s allowed weather reports to be published in a timelier manner than previously in newspapers. Reports sent by telegraph involved retransmission by repeater stations, so a word code, unique to Australia, was developed, with nearly six hundred words representing various elements, each sufficiently different to eliminate transmission errors.

Western Australia's forecast and warning services have always been especially challenged by the state's isolation and vast spaces, such as the limited number of reports sent by radio from ships crossing the Indian Ocean. Unlike the eastern states, WA has a range of climates, varying from the tropical north to the Mediterranean-like climate of the southern areas. The climatic areas are separated by the anticyclonic (high pressure) belt, which moves south of the state in summer, and northwards to central areas in winter. The rain-bearing westerly winds affect Perth only for a short time (usually June, July and August); the summer, with dry easterly winds, becomes hot with little or no rain, while the transitional months provide variable, unreliable rains. By contrast, the north usually has two distinct seasons—a dry winter and a very wet summer—with the possibility of tropical cyclone development. The movement of the anticyclonic belt is not always consistent, and results in marked variations in annual rainfalls, and the occurrence of drought conditions.

The first major expansion of the Bureau came after the introduction of airline services in the 1920s. Initially, pilots did not require forecasts over short distances, as they used their own experience and knowledge. However, during the following decade, longer, interstate and overnight flights required forecasts of route and terminal weather conditions. Major strides in meteorology in the latter decades of the twentieth century, underpinned by advances in remote sensing, computing and communication technologies, led to big improvements. The 1960s saw the installation of the first automatic weather stations off the north-west coast and the reception of the earliest satellite images, followed in the 1970s with computer development and the first use of numerical prognosis charts. It became possible to issue long-period weather forecasts with a high degree of accuracy. As the sophistication and scale of observing systems and numerical models developed, meteorological and climatological research in the Bureau of Meteorology and other bodies in WA also contributed to the overall furthering of scientific understanding.

Today, the Bureau of Meteorology, with a regional office in Perth and offices across WA, remains the state's major meteorological service provider, though several smaller operators also deliver specialised services. **Ray Acaster**

See also: Aviation; Cyclones; Water management
Further reading: R. Hardy, P. Wright, J. Gribbin and J. Knighton, *The weather book* (1985); E. K. Webb (ed.), *Windows on meteorology: Australian perspective* (1997)

Methodist church Adherents of Methodism, founded in England by the Rev. John Wesley, came to Western Australia in 1829. In the following year, Wesleyan Methodists

chartered the brig *Tranby* to bring lay preachers to the colony, including the prominent Hardey and Clarkson families. Joseph Hardey conducted a service on the beach on 7 February 1830 to give thanks to God for their safe arrival. Early services were held in Fremantle in a prefabricated house they had brought with them, and in Hay Street, Perth under a jarrah tree, until a brick Subscription Chapel was built on the corner of Murray and William streets in 1834. Methodist Francis Armstrong was appointed to take charge of the first Native Institution (1834–38) on the river below Mount Eliza. The first Wesleyan minister, the Rev. John Smithies (1802–1872), his wife Hannah and family arrived in 1840. They laboured to spread the gospel in the colony, establishing a Wesleyan mission school in 1840, building chapels in Fremantle (opened 1842) and William Street, Perth, in 1841, and York chapel in 1852–53, before departing for Tasmania in 1855. There were 276 Wesleyan Methodists enumerated in the 1848 census. Numbers continued to rise, and by 1855 four Methodist circuits had been established: Perth, Fremantle, York and King George Sound. In 1870, of the total population, 1,363 (nearly 6 per cent) were Wesleyan Methodists, and in that year Wesley Church was built on the corner of Hay and William streets.

WA became an independent Conference in March 1900. Under the leadership of the Rev. G. E. Rowe, appointed to Wesley Church in Perth in 1893, ministers and home missionaries, and an innovative Order of the Sisters of the People, were sent to the goldfields and new congregations established in country districts and in Perth. In 1901, Methodists made up nearly 14 per cent of the population, making Methodism the third-largest religious group in WA. The Rev. A. J. Barclay was a driving force in home mission developments.

The church also established the Methodist Ladies' College (1907) and Wesley College for boys (1923). Theological training began in 1927, with lectures conducted in conjunction with Wesley College. Kingswood College (opened 1963) at The University of Western Australia became the base for Barclay Theological Hall.

Formerly known for evangelism and revivals, Methodists gradually shifted emphasis during the twentieth century to social work. Methodist Children's Homes, active from the 1920s, cared for orphans and neglected children. From 1951 to 1974, when it was returned to the Aboriginal community, the Methodist Church managed the Moore River Native Settlement, renamed Mogumber.

Church attendance peaked in the 1930s. Sunday Schools thrived, a Young People's Department was formed and, from 1935, women's groups were acknowledged at Conference level. During the Second World War, Methodists cooperated with other churches in offering support to troops. Methodists represented 11 per cent of the total population in 1954. Wesley Church commenced a sheltered workshop and aged-care facilities in the 1960s.

In 1977 the Methodist Church united with the Congregational and Presbyterian churches to form the Uniting Church in Western Australia. **Richard B. Roy**

See also: Education, independent schools; Missions; Moore River mission; Spirituality and religion; Uniting church
Further reading: W. McNair and H. Rumley, *Pioneer Aboriginal Mission: the work of Wesleyan missionary John Smithies in the Swan River colony 1840–1855* (1981)

Mid West The Mid West region is an area of approximately 472,336 square kilometres, stretching from Greenhead north to Kalbarri and inland from the coast to the South Australian border. It is made up of nineteen local government areas, comprising the City of Geraldton and eighteen rural shires: Carnamah, Coorow, Three Springs, Irwin,

Mingenew, Morawa, Greenough, Perenjori, Yalgoo, Mount Magnet, Sandstone, Mullewa, Chapman Valley, Northampton, Cue, Murchison, Meekatharra and Wiluna.

The earliest inhabitants of the area were the Yamatji Aboriginal people, and many of the place names are derived from their language. Examples are Perenjori from 'Perangery', from the name of a bush (peranj-jiddee) that grows around a nearby rock hole; and Meekatharra, 'place of little water'. Many fine examples of Indigenous early art are also evident on the rocks and caves which predominate in coastal areas such as Northampton and Horrocks.

The first Europeans known to have visited the area were Wouter Loos and Jan Pelgrom de Bye from the Dutch sailing ship *Batavia*, who were put ashore in 1629 as punishment for their part in a mutiny. The Abrolhos Islands, where their vessel was later wrecked, is a 100-kilometre chain of 122 islands, which is also part of the Mid West region. The first British arrivals were explorers Captain King in 1822 and Lieutenant George Grey in 1839. Farming needs pushed further exploration ahead, and between 1846 and 1848 the Gregory brothers found good pasture land and coal near Geraldton. Confirmation of these finds by Surveyor General J. S. Roe in 1847 and Governor Fitzgerald's strong interest in the area led to settlement.

Augustus Gregory surveyed the Geraldton Township in 1850, and while the first lot was purchased on 4 June 1851, growth was slow until the arrival of convicts in the district in 1856. Evidence of their presence remains with the ruins of a limestone house at Port Gregory, built in 1853 to house the District Superintendent, and their Hiring Depot. These depots were set up by the government in country areas to facilitate the hiring-out of convicts to local farmers.

The first land at Northampton (640 acres) was purchased by the Geraldine Mining Company in 1849, and a military outpost was set up to protect the mine in 1859. In 1879 the government constructed a railway connecting Northampton and Geraldton. This, the first railway in the colony, considerably promoted local development. It operated until 1957.

The early settlers grazed sheep and cattle and gradually cleared and planted wheat and other grains in the fertile agricultural areas nearer the coast, such as Carnamah, Coorow, Greenough and Mullewa. The grain was processed by hand initially, but Clinch's horse-drawn mill in Greenough was operating as early as 1858. This mill, which supplied flour to the Murchison Goldfields, is now classified by the National Trust, as are the ruins of other buildings erected nearby in the 1860s.

The first freehold block of 1,000 acres was taken up at Chapman Valley in 1860, and the first wheat crop harvested in 1872. The next century saw the founding of a government agricultural research and demonstration farm, the Chapman Research Station (1902).

The first permanent settler in the Perenjori area was Dan Woodall, manager of Perangery Station. Others followed, and the railway opened in 1915. In 1929 Gus Liebe set the world record of 106,000 bags of wheat from one farm in one season. So large was his acreage at Perenjori that when the War Service Land Settlement Scheme took it over after the Second World War, it was divided into seventeen separate farms.

Much of the early produce was shipped from Geraldton, as was the gold from the Murchison fields, discovered in the area in the 1890s. The subsequent rush led to the growth of many thriving communities, such as the now-ruined settlement of Day Dawn and Cue five kilometres to the north, where many early buildings remain as examples of the 1890s gold boom. Another centre rich in heritage architecture from the gold-rush era is Meekatharra, and, like so many of the old gold-mining areas, there are the remnants of batteries, shafts and mining tools scattered around. Meekatharra also became the

regional home to the Royal Flying Doctor Service, which was established in the mid 1930s.

Railways played a prominent role in the development of the area, beginning with the first one to the mine at Geraldine. In 1894 the Midland Railway completed a line from Midland Junction to Walkaway, and extensions followed later on from Mullewa through Mount Magnet to Cue in 1898, and a branch to Sandstone in 1910. In the 1930s heavy promotion in London by Claude de Bernales, the development of the Wiluna Gold Mine and the extension of the railway to that centre led to heavy overseas investment. Such was the level of investment in Western Australian gold mining that gold was one of the main industries responsible for pulling WA out of the 1930s Depression. The railways were closed in later years as road transport became more viable, and then towards the end of the century Wiluna experienced a large population decrease, also in the interests of economy. Large-scale mining continued, but on a fly-in, fly-out basis, with the major portion of its staff resident in the metropolitan area. Western Mining's nickel mine near Leinster has the same set-up as do many of the other operational mines.

Other mining activities in the Mid West have included iron ore (Morawa), mineral sands (Eneabba), zircon (Carnamah), nickel (Mount Keith, Leinster), garnet (Port Gregory), zinc (Yalgoo), lead and copper (Yalgoo, Chapman Valley), talc (Three Springs), and petroleum products and natural gas (Dongara). Transport remains an important issue, but projects like the recent upgrades of the Leinster to Mount Magnet road and Geraldton port have significantly improved matters.

The opening of the railway to Walkaway in 1894 made a huge difference to the wheat industry. Wheat was transported in bags until the mid 1930s and the introduction of bulk handling. During the Second World War, the Australian Army commandeered this railway and training camps were set up in a number of locations. Lookouts were constructed at vantage points along the coast, and Volunteer Defence Corps were formed in many centres.

In 1901 the No. 1 Rabbit Proof Fence was constructed from Starvation Boat Harbour on the south-west coast to Ninety Mile Beach on the north-west coast, a distance of 1,834 kilometres. The No. 2 Rabbit Proof Fence followed in 1905 and joined the No. 1 at Gum Creek. The construction of these two fences not only kept the rabbits out, these having reached epidemic proportions, but also provided casual work for many and a local market for cash-strapped farmers. The remains of these fences can still be seen in a number of areas, as can some of the pits constructed at road and rail crossings, such as that on the old Sandstone railway.

Geraldton's growth as a regional centre and port was such that it became a municipality in 1871. Market gardening was started by the Chinese around 1900 and remains a thriving industry, as does fruit-growing. Western Australia's first iron ore shipment overseas was from Western Mining's Koolanooka Hills Mine (Morawa) in 1966, and these continued until the mine closed in 1974. A further boost to the port has been the more recent live animal exports. Geraldton's rail links with Perth via both Northam and Moora and the Brand and Great Northern highways have also contributed and some manufacturing has developed.

Two of Geraldton's most famous landmarks are Point Moore cast iron lighthouse (1878) and the Roman Catholic Cathedral, which was designed by Monsignor Hawes and erected by local builder, Sydney Pond. Hawes was also responsible for a number of mission-style churches in towns such as Mullewa, Morawa, Northampton, Yalgoo and Perenjori.

A. W. Canning surveyed the 1,800-kilometre Canning Stock Route from Halls Creek to Wiluna in 1906–07 in response to pastoralist demands for an outlet for their cattle, and government wells were subsequently constructed to augment existing waterholes. It

was used for cattle initially, but when many of the southern stations changed over to sheep in the 1930s it was also used extensively for these flocks. Motorised vehicles first crossed it in the early 1970s.

Commercial fishing commenced at Geraldton in the early 1900s and spread to other coastal areas such as Green Head, Dongara, Port Denison, Kalbarri and the Abrolhos Islands. Some centres, such as Geraldton, Port Denison, Dongara and the Abrolhos, are involved in Western Australia's multi-million-dollar rock lobster fishing and processing industry. Others, such as Leeman, Horrocks and Coronation Beach, have strong summer winds, making them some of the world's best windsurfing spots.

Port Denison (originally Port Irwin) still has the remains of a jetty built by Benjamin Mason in 1867 to promote coastal trade. Also in evidence are three warehouses, which are reminders of early prosperity: Pearse's (1867), Moores (1869) and the Government Bond Store (1894). The nearby town of Dongara, where natural gas fields have been developed in more recent times, also has several historic buildings remaining from this early developmental period, including 'Russ Cottage' (1870), the old Police Station and Courthouse (1870) and the Royal Steam Flour Mill, erected in 1894.

Tourism became an important money-earner for the Mid West region in the latter part of the twentieth century. The attractions include wildflowers in season, station stays, Kalbarri National Park and the Murchison River gorges, the Batavia Coast, fishing and other water sports, heritage architecture, gold-mining areas, and so on. Its climate also provides an attractive alternative during Perth's harsher winter months. **Maxine Laurie**

See also: Convicts; Exploration, land; Fishing, commercial; Geraldton; Gold; Greenough; Rabbit-proof fence; Railways; Royal Flying Doctor Service; Shipwrecks; Stock routes

Further reading: S. L. Senior, *Sandstone: from gold to wool and back again: a district history* (1995)

Middle Eastern immigrants Middle East-born migrants in Western Australia are ethnically diverse. The first language of most is Arabic. Only the Iran-born people speak Persian, and the Israel-born speak Hebrew and Arabic. The major religious communities are the Sunni Muslims, Shiite Muslims, Maronite Catholics, Greek Orthodox Christians, Melkite Catholics, Coptic Orthodox Christians, Jews, Druses, Baha'is and Zoroastrians.

Archival records reveal the presence in WA since the 1890s of Assyrians, Syrians, Lebanese and Palestinians, all mostly male Christians, together with a few Jews and Muslims. They worked as merchants, drapers, storekeepers, a brass manufacturer, a marine dealer, a fruit hawker, labourers, tailors, a teacher, an electrician and priests. A few Assyrian and Syrian women were employed as domestic servants, a dressmaker, a draper and a teacher. The earliest people from Syria/Lebanon in WA were recorded in 1911, when they numbered fifty-five. (Lebanon was separated from Syria in 1920, becoming self-governing in 1926 and independent in 1941.) In 1921 their number in WA increased to 190, and finally in 1991 rose to 814, of which 677 were Lebanon-born. The proportion of Lebanon-born in Australia is comparatively much higher in areas of Sydney and Melbourne. The *Immigration Restriction Act,* 1901 permitted some 'coloured' or Asian 'aliens' to work in WA as labourers, though they were not granted naturalisation, which meant they were not accorded the rights of British subjects. However, during the First World War, some Syrians were granted naturalisation because of their religious persecution under the Ottoman Turks. They also supported the British against the Turks, which placed them in a more advantaged position in Australia.

The presence of Egypt-born people in WA can also be traced back to 1911, when they numbered 22; by 1991 their numbers had risen to 1,463. Egyptian Christians were present during the 'White Australia' period; Egyptian Muslims began to arrive in large numbers in the 1960s when Australia began to witness a gradual change in migration policy, culminating in multicultural policy from the 1970s. In 2001 the total number of the Middle East-born population in WA was 8,378, from Bahrain (93), Egypt (1,509), Iran (1,955), Iraq (1,477), Israel (532), Jordan (244), Kuwait (235), Lebanon (855), Palestine (173), Oman (61), Qatar (53), Saudi Arabia (220), Sudan (423), Syria (258), United Arab Emirates (219) and Yemen (71). In 2001 Western Australia's Middle East-born population comprised 4.65 per cent of all Middle East-born in Australia, indicating a relatively low representation in WA. The occupational status of Middle Eastern people in WA varies from immediate production and transport workers, labourers, clerical sales and service workers and tradespersons to professionals, managers, administrators, and successful businessmen.

WA has also accommodated some Middle Eastern refugees and asylum seekers. The Baha'i refugees fled from persecution in Iran mostly after the Iranian Revolution of 1979. In 1981 a Special Humanitarian Assistance Program was introduced, under which Iranian Baha'is and others were able to seek refuge in Australia. In 2001 the total number of Baha'is from Iran in WA was 927. Since the late 1990s, some unauthorised Iraqi asylum seekers (as well as South Asian asylum seekers, born in Afghanistan) were initially detained at the Port Hedland Detention Centre. Later, they were given Temporary Protection Visas for a period of three years. Some of them have settled in regional areas due to the availability of work and are now employed in WA agriculture.

There are about six Islamic schools and colleges and one Jewish private school in Perth. However, since the terrorist attack in New York on 11 September 2001, some Arab and Muslim Australians have experienced repercussions from members of the wider community. Their visibility and also their Arabic names are keeping them disadvantaged in public and in work environments. **Nahid Kabir**

See also: Asian immigrants, nineteenth century; Education, independent schools; Jews; Judaism; Muslims; Oriental Orthodox churches; Refugees
Further reading: N. A. Kabir, *Muslims in Australia: immigration, race relations and cultural history* (2005)

Midland The town of Midland is sited 16 kilometres from Perth on the Eastern Railway Line. It owes its origins to the railway. In 1886 the Midland Railway Company commenced their private line to the northern agricultural hinterlands and up to Walkaway. A workers' tent town, known locally as the 'Junction' or 'Midland Junction', was established at the junction of this line and the Eastern Railway. In 1891 the first residential subdivision occurred, naming the location as 'Helena Vale'. One acre of land was set aside in the town centre for civic purposes. Municipal status was granted in 1895 to the town and environs under the name of Helena Vale Municipality. This name was changed to Midland Junction in 1901. The Government Railway Workshops were relocated from Fremantle to Midland Junction between 1902–04 and were fully operational by 1905.

In the early twentieth century, many fine commercial and civic buildings were constructed in the 'civic triangle', including the Town Hall (1906–12), the Court House (1907), a library from a grant by philanthropist Andrew Carnegie (1912) and the Queen Ann style Post Office (1913), replacing an earlier building. First World War memorials to fallen soldiers included the dome on the

square Town Hall tower (1923) and the Peace Statue, by sculptor Porcelli, at the Railway Workshops (1925).

State abattoirs were opened in Midland in 1914. The brick industry, established in the early 1900s, continues as a significant industry in the twenty-first century. By 1921 Midland had consolidated its image as a 'working man's town', with nine hotels and a population of 5,000.

From the 1960s Midland experienced economic decline, with the closing of the Midland Railway Company in 1964, the state abattoirs in 1980, the Government Railway Workshops in 1994 and other manufacturing and service industries in the 1990s. The Midland Redevelopment Authority, established in 2000, has undertaken plans to conserve, redevelop and promote the town of Midland and the railway workshops site, heralding a new period in the development of the town. In 2006 the state electoral district of Midland had a population of 39,598.
Barbara Dundas

See also: Railways
Further reading: P. Bertola and B. Oliver (eds), *The workshops: a history of the Midland Government Railway Workshops* (2006); M. J. Bourke, *On the Swan: a history of Swan District, Western Australia* (1987); L. Watson, *The railway history of Midland Junction: commemorating the centenary of Midland Junction, 1895–1995* (1995)

Migrant education in WA, as in other states, largely followed the lead of the federal government, whose education policy relating to migrants closely reflected broader immigration policy directions. Since the 1900s, migration policies have passed through successive phases of assimilation, integration and, in more recent years, multiculturalism.

The Commonwealth Adult Migrant Education Program of 1947 included provision for migrant English classes to assist migrants to assimilate after an initial settlement period as 'New Australians'. In schooling, migrant students were encouraged to blend with the rest of the school population, since it was considered easy for children 'to pick up English naturally'. The 1971 Commonwealth *Child Migrant Act*, however, gave official recognition to the special needs of migrant children and allowed for the establishment of the Child Migrant Education Program. In WA, this program funded English-language courses for migrant students in a number of Intensive Language Centres at both primary and secondary level, as well as transition English classes after the initial intensive period.

The philosophy of migrant assimilation was gradually and subtly replaced by one of integration and then of multiculturalism in the 1970s. By 1978 Malcolm Fraser's Liberal government had officially adopted a policy of multiculturalism by endorsing the recommendations of the Galbally report (*Review of Post-Arrival Programs and Services for Migrants*, 1978), which commented on the fundamental role of education in the development of multiculturalism. The impact of this report on schooling was significant, with the expansion of English as a second language (ESL) programs and the introduction of professional development for teachers to make them more aware of the linguistic and cultural needs of non-English-speaking background (NESB) students, as they were now called. This period also saw the funding of ethnic school classes, where the languages of ethnic communities were taught, largely in after-hours classes.

By the 1990s, awareness that schools had to become more tolerant and understanding of linguistic and cultural diversity prompted the WA Ministry of Education to develop policies for both multicultural education for all students and the education of NESB students. The current emphasis in schools focuses on inclusiveness, and acceptance of cultural and linguistic diversity.
Carmela Briguglio

See also: Multiculturalism

Further reading: G. Bottomley and M. de Lepervanche (eds), *Ethnicity, class and gender in Australia* (1984)

Migrant ethnic associations are primarily formed by immigrants to ameliorate difficulties experienced in a new country and to celebrate collectively the culture of their ethnic origins. In this sense, they act positively as a buffer between immigrant and mainstream society. At the same time, however, such associations can sometimes cocoon immigrants from mainstream culture, with all their social needs being met within the ethnic organisation.

That immigrants wished to form their own clubs was sometimes perceived as threatening by mainstream Australians, especially at a time of mass non-British immigration in the decades after the Second World War and under state policies of assimilation. From the 1970s, however, multiculturalism paved the way for many more ethnic clubs and organisations to form and flourish. Currently there are well over one hundred ethnic associations operating in WA.

The clubs can serve those from a common national origin or from smaller regional-specific areas. Familiar cultural practices can be maintained and, importantly, an original or national language can be spoken, fostered, or even taught to second- or third-generation migrants. Association contacts may lead to job opportunities or marriage. Organisations can also provide opportunities for particular music, dance, sports or services that are not available within mainstream Australian culture. Some long-established ethnic groups provide residential aged care: Villa Terenzio (1973), a nursing home for Italian aged, is an early example.

Clubs should not be regarded as typical of the entire national or ethnic group that they may appear to represent. They often present the dominant face of a community (typically, male, first generation, and from the most numerous region of the country of origin), but actually comprise a microcosm of differences which are apparent in the country of origin but largely invisible to mainstream Australians. They can be battlegrounds for intra-community tensions based around politics, gender, generation, region, time of arrival, religion and class. Later waves of immigrants have different needs and attitudes from earlier arrivals. Official encouragement of multiculturalism in the 1980s gave more political clout to ethnic voices, which added to the competition as to which organisations could speak for 'their' community.

Some early Greek clubs include the Castellorizian Brotherhood (1912), which reflected the immigrants' area of origin; the Hellenic Community of Western Australia (1923) and Hellenic Women's Association (1923), which were formed primarily to fundraise for a church; and the Greek-Macedonian 'Alexander the Great' Association (1930) for Greeks who were not from Castellorizo. The Hellenic Progressive Association of Athena (1951) was aimed at youth involvement and formed the Floreat Athena Soccer Club. This latter push towards youth involvement illustrates a common anxiety of club founders, namely worrying about the future and the prospect of 'the next generation' becoming too Australian and losing ethnic identity.

The Italian Club was formed as La Casa di Italia (1937) and is pro-unity, the preserve of 'legal' Italy thus masking that Italy is in fact comprised of many 'Italys'. There are other more specific clubs representing Italian regional allegiances such as Laguna Veneto Social and Bocce Club, founded in 1961 by immigrants from the Veneto region.

In the ever-changing 'Yugoslav' immigrant landscape, the early twentieth-century Australia-wide clubs of the Yugoslav Immigrants Association all disintegrated in political bickering after the Second World War. Another, Sloga (mid 1930s) survived despite politics, and in the 1970s joined with

the Jadran Yugoslav Cultural Club (1953) to become the WA Yugoslav Club. Reflecting the disintegration of Yugoslavia, it was renamed as the Stirling Adriatic Centre in 2003.

Another early national organisation, the Celtic Club, was founded in 1902. Serving different Irish needs, the Irish Club was formed in 1950, and both, through change and adaptation, are still strong. Various Dutch Clubs began post Second World War, and by the 1960s had merged to form Neerlandia. Yet another Dutch group was formed in 1996, the Australia–Netherlands Society of Western Australia, whose main concerns are the preservation of Dutch culture and herit-age, and aged care. A Polish Club formed in Northam immediately after the Second World War did not survive; however, Polish interests are served by several other organisations. The Rhein-Donau Club (1958) replaced a defunct earlier German club. By 1992 there were thirteen different German clubs in the metropolitan area.

These examples comprise a tiny fraction of the complex, ever-changeable network of ethnic organisations. Historically and cur-rently, ethnic organisations are as varied and dynamic as the populations they serve. **Jean Chetkovich**

See also: Dutch; Germans; Greeks; Irish; Italians; Migration; Multiculturalism; Polish immigrants; Russians; Scots
Further reading: J. Jupp (ed.), *The Australian people: an encyclopedia of the nation, its people and their origins* (2001); N. Peters, *Milk and honey but no gold: postwar migra-tion to Western Australia, 1945–1964* (2001); R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004)

Migrant reception has generally been a concomitant of state-assisted migration schemes to Western Australia. From the mid nineteenth century, government-assisted

immigrants arriving in Fremantle could stay at reception barracks such as those at the corner of Henderson and Queen Streets, Fremantle, and in Goderich Street, Perth. These often-spartan facilities also served as temporary accommodation for single females, designed to facilitate their employment. With the opening of the inner harbour in 1897, Fremantle became first port of call for almost all passengers and migrants to WA. At this time, immigration had been stimulated by both the gold rushes during the 1890s and ambitious land settlement schemes developed by Sir James Mitchell. The Commonwealth's 1901 *Immigration Restriction Act* and the focus of settlement and assisted-passage schemes meant that the majority of migrants were British.

One of A. O. Neville's first tasks, after his appointment as Immigration Officer in 1906, was to establish an Immigration and Information Bureau at Fremantle Harbour for processing migrants and tourists. Immigra-tion officers met incoming ships to acquaint themselves with the needs of migrants prior to docking. Officers assisted migrants through customs and then directed them to other government representatives to discuss employment opportunities or land selection. Also at hand were representatives from the Salvation Army, Girls Friendly Society and Women's Service Guild. In 1909 there were immigrant-receiving homes at South Street, Fremantle, and Pier Street, Perth, where new migrants were given three days' free board before being expected to find employment. Homes were later opened at Katanning, Nar-rogin and Geraldton. This policy of migrant reception continued with little change until the 1940s.

The Commonwealth government's 1947 agreement to accept displaced persons from Europe necessitated the establishment of agencies that could handle large numbers. The greatest difficulty encountered by the mass-migration scheme was the extreme housing shortage. To enable the program to get under

way, ex-Army and RAAF camps were taken over. The military establishments that became Reception and Training Centres provided initial reception, processing and accommodation for migrants until the breadwinner was directed to work. Then his wife and children were taken to longer-term residential camps known as Holding Centres. All procedures at reception and holding centres were aimed at assimilating non-Britishers to the 'Australian way of life'; however, the reality was that the migrants were given little to prepare them for their new way of life.

Camps that continued to function after the immediate postwar years were used to house other migrants. British migrants who migrated under the Assisted Passage Scheme to work on the Kwinana industrial development, for example, were housed at Point Walter, and Spanish migrants who provided unskilled labour for the WA Government Railways were housed at Holden Camp.

In WA the following migrant camps were operational for various periods between 1947–63: the state-operated Point Walter Migrant Reception Centre (1947–72), and the Commonwealth-operated Graylands Reception and Training Centre (1947–51), Graylands Hostel (1951–86) and Swanbourne Reception and Training Centre (1947–49) in the metropolitan area; and Holden Holding

A group of migrants receiving English lessons at Highgate School, 1960. Courtesy West Australian *(A7528)*

Centre, Northam (1949–57 and 1962–63), Northam Accommodation Centre (1949–51), and Cunderdin Reception and Training Centre (1949–52). Later the Noalimba Migrant Centre (1968–84) was opened in Brentwood. The largest were the camps in Northam, which by May 1954 had housed 23,000 migrants.

In 1961 a new passenger terminal was constructed at Fremantle Harbour to service increased passenger traffic. It contained an immigration information and tourist bureau with inquiry desks staffed by Fremantle Port Authority hostesses—an Australian first—who were often migrants themselves and spoke several languages. With organisations such as the Red Cross and the Good Neighbour Council, hostesses formed part of a practical approach to assimilation that welcomed 'New Australians' and encouraged them to become part of the existing community.

While social and welfare groups continue to offer assistance to migrants and refugees, multiculturalism of the late twentieth century has seen changes to migrant reception from assimilation to inclusiveness, and from centralisation to community-based. **Kristy Bizzaca**

See also: Good Neighbour Council; Group settlement; Land settlement schemes; Migration; Military camps; Multiculturalism
Further reading: J. Gothard, *Blue China: single female migration to colonial Australia* (2001); J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); N. Peters, *Milk and honey but no gold: postwar migration to Western Australia, 1945–1964* (2001); N. Peters (ed.), *The Dutch down under, 1606–2006* (2006)

Migration Aboriginal people inhabited many parts of Western Australia for over 40,000 years before the arrival of European settlers at Swan River in 1829. The British government decided to establish a colony there,

partly to thwart perceived French intentions to settle on the then un-annexed western third of the continent, and partly because of a favourable report received from Captain James Stirling following his visit to Swan River in 1827.

The first British settlers came either under a scheme devised by Thomas Peel, or as individuals who were offered access to grants of land, depending upon the value of capital goods and numbers of indentured workers they brought with them to the colony. The foundation population (1,554, excluding military) in 1829–30 included ninety-two 'masters' and about nine hundred indentured workers and their dependants. However, they soon realised that the quality of soil and the safety of anchorages described in Stirling's 1827 report had been exaggerated. Immigration slowed to a trickle. Between 1831 and 1836 net gain was only 167, but by 1850, as a result of natural increase, new schemes to recruit British indentured workers, acceptance of juvenile offenders from Parkhurst Penitentiary, and assistance to British migrants through sale of crown land, the colony's non-Aboriginal population had reached 5,886.

From the outset, the colony's governors and officials made it quite clear that there would be little if any place for non-British migrants, although they reluctantly supported proposals to admit a few so-called 'coolie workers'. Because the colony's 1850 population was clearly insufficient to develop agriculture and exploit resources, colonists supported a plan to admit male convicts from the United Kingdom. The British government also agreed to financially assist migration to the colony of convicts' families and single females, to retain the colony's demographic balance and to provide domestic labour. But its plan to 'recruit' English single females from workhouses was not acceptable to the colonists, and most of the females who arrived were Irish and not from workhouses.

By 1870, as a result of convict transportation and small but sustained intakes of free settlers, including government-assisted immigrants, persons born outside the United Kingdom and Ireland comprised a mere 3.2 per cent of the colony's non-Aboriginal population. A number of settlers had moved to other Australian colonies, especially to Victoria during its gold-rush era. Net migration continued to be small and mainly British, aside from several hundred Chinese and Malaccan workers employed in the pearling industry. However, with the discovery of gold in the Kimberley region during the 1880s, followed by more spectacular discoveries in the Murchison and Yilgarn, immigration rose dramatically. Between 1890 and 1897, the colony added 106,872 net migrants to its 1888 population of 43,814.

This demographic watershed actually did little to reduce the dominant Anglo-Australian composition of Western Australia's population. Although gold discovery and associated opportunities had attracted migrants from all over the world, few of them had been born outside the United Kingdom and Ireland or other Australian colonies. For example, the 1901 census showed that 64,289 persons in WA had been born in other Australian colonies, almost equal in number (62,663) to those born in WA. Of the 47,565 born in European countries, 41,551 had been born in England, Wales, Scotland or Ireland. Of the 6,014 born in 'foreign European countries', most were males: Italy 1,296 males and 58 females; Germany 1,255 males and 267 females; Sweden 715 males and 39 females; and Greece 146 males and 2 females. The foothold established by males from southern Europe at this time led in due course to the establishment of settled communities, achieved initially through the nomination for migration of females from their homelands.

Federation in 1901 not only facilitated inter-state mobility but also led to policies that strongly favoured British immigrants over other Europeans and, through the

Immigration Restriction Act (1901), greatly restricted entry of non-Caucasians. Because statistics on arrivals by state (port of entry) do not necessarily indicate numbers who intend settling in the state, census data on birthplace has become a more reliable source for estimating state gains through migration, even though birthplace does not necessarily indicate a person's ethnicity.

Though immigrants from other countries also migrated to the state, strong support for British migrants during the first half of the twentieth century was especially noticeable in WA. Prior to the First World War the British were major players in what Glynn referred to as 'the intended connection between immigration and land settlement'; and, during the inter-war period, 19,000 were assisted under the United Kingdom–Australia supported Empire Settlement Scheme to establish farms in the South-West.

Although immigration to Australia effectively ceased during the Second World War, the war itself had a major impact on the numbers and ethnicity of immigrants after 1946. The federal Labor government's decision to adopt a population policy that would increase the nation's population from seven million to over twenty million by the end of the century, in order to develop an infrastructure that would deter any 'future aggressor', incorporated a proposed immigration component equal to one per cent of the population each year. Although the initial intention to favour ten British migrants for every foreigner could not be fulfilled, despite a generous assisted-passage scheme, the Australian government did not resile from its policy regarding immigration in general. The availability of displaced persons in refugee camps in western Europe, and an agreement with the International Refugee Organisation that allowed the Commonwealth government to place refugees (often irrespective of their skills) into jobs for which Australian workers could not be found, was a major influence in reducing the dominant historical influence

of British migration to WA. Furthermore, many southern European migrants who had arrived in the state before the Second World War nominated relatives from war-torn homelands. And during the 1950s the Australian government wrote bilateral migration agreements with continental European countries, for example, Netherlands and Austria, as well as Italy and Greece.

These early post-war initiatives had a significant impact on the ethnic composition of Western Australia's population. Although British migrants retained dominance in annual intakes, by 1961 the population showed diversity hitherto unknown. Aside from the number of Italy-born persons having increased from 5,422 at the 1947 census to 25,249, Greece-born from 1,933 to 4,088, Yugoslav-born from 3,377 to 5,876, Netherlands-born from 264 to 11,163, and Austria-born from 156 to 1,068, new groups born in countries covered by the displaced-persons program now appeared in the 1961 census. These included: Poland (4,711), Latvia (1,247), Lithuania (480) and Estonia (366).

The state's population increase through migration could have been greater had it not been for sluggish economic growth (and therefore limited employment opportunities) from the mid 1950s to mid 1960s. Although national immigration intakes exceeded 100,000 per annum during this period (including tens of thousands of Italians and Greeks who settled in Melbourne and Sydney), the proportions settling in WA were very small. Indeed, in 1959 more persons left WA (including local-born) than arrived. By the late 1960s, however, the trend had been reversed in a most spectacular manner by the advent of the so-called 'Pilbara boom'. Workers and their families arrived (many from other states) in their thousands, and this influx, together with natural increase, led to the state's population growth reaching 3.8 per cent in 1968 and 4.3 per cent in 1969, almost thrice the national rate. The demographer D. T. Rowland described this migration

as on a scale not achieved since the Kalgoorlie gold rushes of the 1890s.

Other resources-induced migration to WA occurred during the early 1980s: the alumina projects at Wagerup and Worsley; nickel at Kambalda; and gas on the North-West Shelf. These projects, and government-funded infrastructure, created demand for skilled and professional workers, many of whom came directly from overseas. Migration from other Australian states included overseas-born professionals who were transferred west by their employers and others who came to fill vacancies. Furthermore, federal immigration policy increasingly endorsed short-term migration to facilitate entry of specialists, consultants and administrators to work in the Australian sectors of international companies. Business migration was also favoured by government as a way of obtaining entrepreneurs and their capital.

Of equal if not greater importance for the changing ethnic composition of Western Australia's migrant population was the Whitlam government's decision to delete 'race' as a criterion for entry under Australia's various immigration programs. Then, in 1979, a points system was applied to the selection of 'independent and skilled admissions' based on criteria such as age, occupation, education, English language capacity, and previous connection with Australia. This system was not applied to refugees and immediate family.

Prior to the Whitlam initiative, coalition governments in Canberra had slowly dismantled 'White Australia' by admitting small numbers of 'persons of mixed descent', such as Mauritians, Anglo-Indians and Ceylon Burghers, many of whom held high qualifications and settled in WA. In 1975, the last year of the Whitlam government, there was a drastic reduction in total national intake, due largely to economic conditions which, in many respects, heralded a new era in immigration. The assisted-passage scheme with the United Kingdom ended in 1982, and immigration from Western Europe virtually disappeared.

Refugee and humanitarian intakes from East Timor, Vietnam and Lebanon were already under way in 1976, and by 1986, mainly through family reunion, their numbers had greatly increased. For example, the number of Vietnamese persons in Australia in 1976 (2,427) had increased to 83,056 in 1986.

Concern that the large numbers of humanitarian and family-reunion migrants from Asia had created social and economic problems, and that they were not contributing sufficiently to economic progress, was a central reason for the Commonwealth government to establish the Fitzgerald Inquiry in 1988. This report led to a shift from family reunion to skilled and business migration, although family reunion remained a major medium for increased numbers from the Philippines, Vietnam and Lebanon. The Hawke Labor government's decision to allow 20,000 Chinese students in Australia at the time of the 1989 Tiananmen Square massacre to remain partly explains the increase to 111,009 in number of Chinese in Australia in 1996. Successive governments since the Fitzgerald Inquiry have clearly aimed to increase the skill and education of migrants, and hence make them more employable. This has not shifted the balance away from Asia, as high proportions of migrants from Hong Kong, Taiwan, Malaysia, Singapore, India and Sri Lanka have entered under skilled and business migration categories. Refugee intakes are more likely to be from the Middle East, the Balkans, South America and Africa. British arrivals still come mainly from the United Kingdom, but also from other English-speaking countries, and Jewish arrivals have increased from Russia and South Africa.

To what extent have these major changes in the birthplaces and ethnicity of Australia's immigrants been shared by WA? The state's high economic growth since the mid 1970s has created sustained, but differential, demand for labour in industries dependent on the resources sector. Immigrants with appropriate skills have responded to

opportunities and in due course have utilised family reunion schemes. However, the state's longstanding British 'connection' has seen the proportion of United Kingdom-born persons in the population (11 per cent) remain twice as high as the percentage for Australia as a whole (5.5 per cent). On the other hand, the percentage of United Kingdom-born persons among the state's foreign-born population declined from 76 per cent in 1947 to 51 per cent in 1996. This reflects the changes in national immigration policies and intakes noted above.

The 2001 census also shows that immigrants from some proximate countries clearly favour WA as a preferred state of settlement. The 17,377 Malaysia-born persons as a percentage of the state's population was twice the percentage for Australia as a whole, as were the percentages for Singapore-born and South Africa-born. On the other hand, the percentages of Vietnam-born, China-born and Philippines-born were only half the percentages for Australia as a whole. The higher percentages for Malaysia, Singapore and South Africa born no doubt reflect opportunities for persons with business and professional skills, proximity to homeland and nomination of families. The lower percentages for Vietnam, China and Philippines born may reflect the attraction that existing large communities of compatriots in other states have played in decisions on place of settlement. **Reginald Appleyard**

See also: Asian immigrants; Child migration; Croatians; Dutch; Eastern-central Europeans; English immigrants; Germans; Greeks; Irish; Italians; Jews; Middle Eastern immigrants; Multiculturalism; New Zealanders; Polish immigrants; Refugees; Russians; Scots; Southeastern Europeans; Southern Africans; Welsh
Further reading: R. T. Appleyard, 'Population' in R. T. Appleyard (ed.), *Western Australia into the twenty first century* (1991); R. T. Appleyard and T. Manford, *The beginning: European discovery and early settlement of Swan River Western Australia* (1979); S. Glynn, *Government policy and agricultural development* (1975); D. T. Rowland, *Internal migration in Australia* (1979); V. Fitch, *Eager for labour* (2003); I. H. vanden Driesen, *Essays on immigration policy and population in Western Australia 1850–1901* (1986)

Mile pegs The tradition of establishing road markers to indicate distances extends back to the Roman Empire. It was introduced to Western Australia by the colonial government in the early years of agricultural settlement after 1829. The first instances of demarcation, carried out by government surveyors, involved the blazing and numbering of trees at one-mile intervals along the main tracks developing out from Perth, Albany, Augusta and York. The markers helped travellers and drovers to plan movements between watering points and provided a base point for surveys of land grants.

In the 1860s a systematic approach was developed by the Lands and Surveys Department for new roads. Surveyor Ranford's 1872 field book has detailed drawings of mile posts installed on the Albany Road during the demarcation of the road survey and delineation of agricultural land. The mile pegs were hewn wandoo or tuart wooden posts, in which was chiselled the number of miles from a stone tablet (with a bronze plaque saying '0 Miles') located at the General Post Office (now known as the Treasury Building) in Perth. In 1926 the Main Roads Department took over the installation of mile pegs on main roads. They used pointed sawn jarrah pegs with brass numerals. Mile pegs or markers were also installed by the Goldfields Water Supply Department along the Kalgoorlie pipeline during construction in the years 1899–1902, and by the Rabbit Department along the rabbit-proof fences, built at various times in the early twentieth century. Similarly, the WA Government Railways installed telegraph poles at four-chain

(80 metre) intervals along all railway lines, so that there were twenty poles to a mile. All the poles were numbered and the distance from the Perth railway station recorded on the pole. Before accurate maps became available, distance-markers like this and the mile pegs were important reference points for early settlers, pastoralists and travellers. After cars became more common in the 1920s, the Royal Automobile Club (RAC) had a significant program of erecting signs and distance indicators all through the southern half of the state, as an aid to motorists.

Wooden mile pegs disappeared after metrication, replaced by metal signs showing the distance to the next major centre at five-kilometre intervals. However the old system survives through the naming of numerous features all over WA after their distance from the nearest town, for example, the Thirteen Mile Brook near York, the One-Mile Bridge near Pemberton, and The Three-Mile, a small settlement near Wyndham. **Mike Wallwork and Roger Underwood**

See also: Cartography; Rabbit-proof fence; Roads; Royal Automobile Club; Stock routes; Surveying

Military bands, usually consisting of brass, percussion and, in recent times, woodwinds, provide music for ceremonial occasions and public events.

The earliest performances by military bands in WA involved members of the British colonial garrison. Beginning in the 1860s, however, the locally raised volunteer force established a number of bands with the aid of public subscription. That of the Metropolitan Rifle Volunteers became particularly well known for its frequent outdoor concerts. In 1895 existing unit bands were amalgamated to form a representative band. Among its performance credits was the farewell given in 1899 to the first WA soldiers bound for the Boer War.

The twentieth century saw an increase in both the number and diversity of military bands hosted in WA. Many units raised in the state for service during the world wars formed a band that accompanied them overseas or, in the case of rear echelon units, undertook home-front commitments. Likewise, units and formations sent west frequently brought bands with them. One, based on board HMAS *Sydney*, was lost to a man when the ship was sunk off Carnarvon in 1941.

With the emergence of commemorative traditions like Anzac Day, military bands assumed a significant new ceremonial role. The popular 5th Military District Band, for instance, is as widely remembered for its contribution to Anzac Day as its other activities.

Organisational changes mean bands are no longer linked to units but to areas. The army has thus long maintained an official representative band in WA, known today as the Australian Army Band Perth. A detachment of the Royal Australian Navy Band is also based in Perth. **Shane Carpenter**

See also: Anzac Day; Band music; Colonial volunteers; HMAS *Sydney*

Military camps Over the years, military camps have served a number of functions in Western Australia. The first significant European presence was a military camp—a strategic outpost established by soldiers of the British 39th Regiment and convicts at King George Sound in 1826. Barrack and Cantonment streets are reminders of early camps used by the 63rd and 21st Regiments (1829–40) at Perth and Fremantle. Other early sites linked to the British garrison include barracks at Kojonup, Dardanup, Williams and York. When the colony began to raise its own defence forces in 1861, conditions of service obliged volunteers to attend short camps for training purposes. Though circumstances have changed, such camps have become a regular feature of amateur and professional soldiering.

Wartime has seen the greatest camp activity. During the Boer War, WA recruits were brought together in an encampment at Karrakatta, where they received uniforms, equipment and military training before proceeding overseas. A similar situation prevailed during both world wars, as numerous camps evolved to meet the needs of a rapidly expanding army. In 1914 the focal point for recruit training was Blackboy Hill; in 1939 it was Northam. The threat of a Japanese invasion in 1942 resulted in a proliferation of military encampments in metropolitan and country districts. However, once the threat of war passed, many disappeared.

Some military camps retained in peacetime have been used for civilian purposes, such as quarantine, emergency accommodation and migrant reception. Today there are permanent camps at Swanbourne (Campbell Barracks) and Karrakatta (Irwin Barracks). **Shane Carpenter**

See also: Army; Boer War; Colonial volunteers; First World War; Second World War

Mineral sands Over geological time, rivers flowing into the sea in south-west WA deposited their sediment in layers along what is now the coastal belt of the region. Among these deposits were various mineral sands including rutile, ilmenite (titanium minerals), zircon and monazite. During and after the Second World War, these minerals began to attract industrial interest, with rutile being used for electrodes in radios and titanium dioxide replacing lead as the pigment in white paint.

The first mineral sands deposits were located in 1949, and by the mid fifties several small companies had begun locating and mining these deposits and developing overseas markets. The first deposits were exploited at Koombana Bay and around Capel in the mid 1950s; in 1970 deposits were also discovered at Eneabba and in the state's far

south-east corner in the 1980s. In 1968 the first plant to produce 'synthetic rutile' was commissioned to add value to the product of sand mining.

WA became Australia's largest producer of mineral sands and a significant producer on the world stage. The industry had important effects in the region by creating direct and indirect employment on a large scale. In the 1970s environmental concerns about then existing mining practices led to the development of more acceptable policies that attempted to return mined-out areas to sympathetic condition. **Leigh Edmonds**

See also: Bunbury; Busselton; Geology; Mid West; Mining and mineral resources; South-West
Further reading: J. L. Baxter, 'Mineral deposits of Western Australia: Mineral Sands', in R. T. Prider (ed.), *Mining in Western Australia* (1979); D. R. Mulligan (ed.), *Environmental management in the Australian minerals and energy industries: principles and practice* (1996)

Mining and mineral resources The resources sector is the mainstay of the Western Australian economy, contributing almost three-quarters of all exports and a quarter of Gross State Product (GSP). Two-thirds of Australia's non-fuel mineral production comes from WA, as does approximately half of its petroleum.

Before European settlement, mining existed on a small scale. Western Australia's largest known Aboriginal excavation site is at Wilgie Mia, where a large cavern was created over many generations by the removal of red ochre. After 1829, white settlers quarried coastal limestone for foundations, walls and roads, and also to burn in kilns for builders' lime. The digging of clay also commenced in the first years of British occupation, and a small brick-making industry helped serve local needs. Mineral development for

export revenue, however, long remained unattainable.

The colony's first mining company was formed in 1846 to encourage prospecting. Within a month, a lead lode was reported near Armadale, but commercial production proved impracticable. Exploration of the Murchison district yielded a more promising discovery of lead, and resulted in the establishment of the Geraldine mine, producing the colony's first mineral exports. Copper and lead finds between the Murchison and Chapman Rivers led to the development of a base-metals industry that peaked in 1877, when it provided 13 per cent of the colony's exports.

Western Australia's first significant rush for gold occurred after a strike in the Kimberley district in 1885. Further discoveries led to the proclamation of the Yilgarn and Pilbara goldfields in 1888, overshadowing the discovery of tin at Greenbushes. A mining and investment boom was fuelled by exciting gold finds at Coolgardie in 1892 and Kalgoorlie in 1893, and the Forrest government was responsible for several schemes designed to perpetuate the boom. These included the construction of a goldfields water pipeline, bonuses for the sinking of shafts, and the provision of batteries to assist small operators. Steps were also taken toward the establishment of a system of mining education, culminating in the opening of a School of Mines in 1902.

The Forrest government also cleared the way for the exploitation of coal deposits. A stockman had found coal near the Collie River in about 1883, but the discovery had not become public knowledge until 1889. The government carried out testing in the area and it was proven that coal seams extended over a considerable area. The government's mine was leased to private interests and established the viability of the Collie coalfield. By 1900 coal production was soaring.

Despite this, the importance of mining, relative to other industries, waned as gold output declined after 1903. In 1925 a royal

commission castigated the industry for its neglect of development work and failure to deal with mining, metallurgical and industrial problems, but little was done to halt the slide. Accounting for nearly 85 per cent of the value of Western Australia's exports in 1903, minerals represented less than 6 per cent of the total in 1928. In 1927–28, mining contributed only 2 per cent of GSP.

Gold production increased after 1930, but the Second World War halted the sector's recovery and, between 1939 and 1945, the number of people engaged in all types of mining decreased from 16,000 to 6,000. While the gold industry continued to struggle after the war, reconstruction, industrialisation and rearmament resulted in demand for a wide range of metals, building materials and fuels, vastly improving prospects for other mineral commodities. Diversification followed, and by 1970 gold had lost its once unchallenged status as Western Australia's leading mineral by value of production, representing only 2 per cent of all mining.

The commencement of open-cut mining at Collie in 1943 contributed to a run of record coal-production figures after the war, but this trend was reversed by a policy of encouraging the development of deep mines. In 1960, however, the Brand government's insistence upon price reduction brought about industrial upheaval and the resurgence of open-cut mining. After 1963 production increased annually, and by 1970 sixty per cent of Western Australia's coal came from open-cut mines.

An embargo on the export of iron ore was imposed by the federal government in 1938 and remained operative until 1960. Despite this, the WA government's completion of the first stage of a charcoal-fired pig iron plant at Wundowie during 1947 resulted in the mining of lateritic ores from hills nearby and, after 1951, the development of higher-grade iron deposits at Koolyanobbing. The investigation by private enterprise of deposits at Yampi Sound on the Kimberley coast resulted in a first shipment of ore to NSW in 1951.

Production increased a hundredfold over the next decade, and there were several major discoveries of high-grade iron – mainly in the Pilbara region – which ensured substantial participation in the international iron ore trade after 1960. In 1966 iron surpassed gold as Western Australia's most valuable mineral.

Asbestos mining also increased in importance in the 1940s and 1950s. Two companies began production during the war, one at Yampire Gorge and the other at Wittenoom Gorge. After the construction of a large crushing mill at Wittenoom in 1943, production increased steadily. When maximum output was achieved in 1962, asbestos was ranked fourth, by value of production, behind gold, iron and coal. The mining of asbestos would be remembered most, however, for the legacy of respiratory illnesses left to those exposed to its hazards.

More lasting economic benefits ensued from the establishment of an oil and gas industry following the discovery of oil near Exmouth Gulf in 1953. This led to an upsurge in exploration and the discovery of payable oil at Barrow Island in 1964. Production commenced in 1967 and exceeded 4.5 million barrels of crude oil in the first year. Closer to Perth, a gas field was discovered at Dongara and brought into production before the end of 1971. By then, offshore drilling had identified vast oil and gas reserves on the North-West Shelf, ensuring significant production beyond the turn of the century.

Mineral sands also emerged as a major contributor to export earnings and royalty revenue during the 1960s. This sector of the industry had its beginnings in 1949, when beach sand from the shores of Cheyne Bay was exported for testing. The first production of ilmenite on a commercial scale began near Bunbury in 1956, and operations commenced at Capel, Wonnerup and Yoganup soon afterward. The value of ilmenite, rutile, leucoxene, monazite and zircon exports escalated steadily during the next decade and continued after 1970,

when large deposits of mineral sands were identified at Eneabba.

The existence of bauxite in WA had been recognised in the early 1900s, and when mining began near Jarrahdale in 1960 it achieved rapid success. A 1961 agreement between the WA government and a new group, Alcoa of Australia, resulted in the establishment of an alumina refinery at Kwinana; by 1969, plans had been completed for a second refinery at Pinjarra. In that year the value of alumina production was almost $50 million – second only to iron ore.

No development in WA mining during the 1960s generated more public excitement than the discovery of high-grade nickel ore at Kambalda in 1966. This sparked a prospecting and stock-market boom of gigantic proportions, and exploration expenditure climbed steeply, resulting in a string of discoveries stretching from Norseman to Wiluna. Production commenced in 1967, and within three years the total value of the state's nickel output was $87.4 million, with a refinery having been commissioned at Kwinana.

These and other mining developments carried the value of mineral production to new heights. By 1970 production was worth $579.4 million, an increase of 662 per cent since the introduction of decimal currency in 1966. The effect on the structure of the economy was dramatic. In 1963–64, mining and quarrying accounted for only 6.2 per cent of all production in WA, and for 11.6 per cent of primary production, whereas the figures for 1974–75 were 30.9 per cent and 48.8 per cent respectively. There were numerous multiplier effects associated with mining's expansion and diversification. Service industries emerged, industrial development accelerated, and urban sprawl resulted from a rate of population growth that doubled that of the rest of the nation.

The 1980s witnessed a new gold boom and the mining of rich diamond deposits in the Kimberley. Gold and diamond output contributed to a further 73 per cent increase

in the value of mineral production between 1981 and 1985, while a 99 per cent increase over the next five-year period lifted the total beyond $10 billion. In 2005 petroleum and iron ore each accounted for 39 per cent of Western Australia's royalty collection, ahead of nickel, gold and alumina. Royalties from iron ore have since predominated.

For more than a century the development of Western Australia's mineral resources has been unrivalled as a catalyst for economic growth. In the mid 1990s the state government's maverick challenge to the validity of the High Court's 1992 Mabo decision reflected an acute awareness of mining's historical role and continuing importance. In the twenty-first century that awareness is unlikely to diminish. **Ken Spillman**

See also: Alumina; Asbestos mining; Base metals; Chamber of Minerals and Energy; Coal; Diamonds; Gold; Guano; Iron ore; Manganese; Mineral sands; Mining, camps and accommodation; Mining technology and mineral processing; Nickel; Oil and gas; Salt; School of Mines; Tin
Further reading: R. T. Prider (ed.), *Mining in Western Australia* (1979); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993)

Mining, camps and accommodation
Western Australia's first mining town, Northampton (1864), housed Cornish and Welsh miners working small lead and copper mines in the district. The Kimberley gold rush of 1886 attracted the first large group of prospectors to the colony. Despite its remote and inhospitable location, over one thousand men camped near Halls Creek during the first wet season, but soon moved to new finds further south. The 1892 Coolgardie rush led to the spread of prospectors throughout the eastern goldfields, despite the lack of perennial surface water supplies. Large alluvial mining camps could be located from

miles away by the clouds of dust generated by the diggers' dry blowers and by the smell of human excreta that fouled the camp surrounds.

A mining company of the 1890s typically provided housing at the mine for its manager and senior staff, and a daily water ration to its workers, who built their own dwellings of whitewashed hessian and corrugated iron on the company's leases. The exclusively male nature of the early camps only began to diminish when miners' wives and children came to join them, and the families moved to larger houses on town blocks. Dust from tailings dumps and areas denuded of bush for firewood was a perpetual problem. The arrival of piped water in Kalgoorlie in 1903 was an event no resident ever forgot.

In the early 1930s Wiluna Gold Mines was the first company in the state to build rental housing for its single worker—two-man huts, which miners preferred to the usual boarding-house accommodation. After the Second World War, mining companies at Bullfinch, Wittenoom and Yampi Sound all built employee housing.

The initiation of large iron ore mining projects in the Pilbara in the 1960s began a new era for remote-area mining. Improved camp accommodation for single men, with individual air-conditioned rooms and meals provided by specialist caterers, became the norm. At each central mine a 'permanent' town was built. High wages and suburban-style houses attracted young couples, although labour turnover was initially very high. In the first year of one town the average stay for new workers was only twenty-one days. With a very high birthrate, population growth was rapid. By 1972 there were 5,000 people living in Newman, but, because of the large number of small children in the town, the average age of its population was less than fourteen.

Industrial relations in the Pilbara towns became very bitter in the mid 1980s, particularly on the Robe River Iron Ore

Mining, camps and accommodation

Project, which in 1985 came under new management that attempted to abolish all trade union activity on its sites, including collective bargaining. During the long dispute, relations in the company towns of Wickham and Pannawonica became very bitter as company staff members continued to work. Only union members who signed individual contracts under the Workplace Agreement were re-employed. Wounds opened during the dispute took decades to heal.

The Kambalda towns built by Western Mining from 1966 to house its nickel-mining workforce were better planned than the Pilbara towns, and a policy of minimal vegetation clearance enhanced the woodland setting and reduced dust problems and maintenance. However, in the 1970s explorers and new mine developers still lived in 'dongas', rows of portable units like railway carriages. Though never free of dust or mud, they were at least air-conditioned.

With higher gold prices in the 1980s, many former mines were reworked as open-pit mines, but new towns could not be built economically because the mine life was anticipated to be short. Instead, construction-style camps with single person units including en suite bathrooms were provided. Typically, twelve-hour shifts were worked, and workers were rostered ten days on and five days off, returning home by car or plane during their days off. In the 1990s these arrangements were extended to larger mines, including some of the Pilbara iron ore mines. Advocates of this work-style, known as 'fly-in, fly-out', include not only mining companies but also city-orientated workers who make up an increasingly large percentage of mine workers. Local authorities in mining areas are among the work style's greatest detractors, as fly-in, fly-out projects contribute nothing to the survival of existing communities. Like all camps and townships of previous eras, these single-mine camps will rise and fall with the success of their mines. **Richard G. Hartley**

Mining technology and mineral processing

See also: Eastern Goldfields; Geology; Gold; Goldfields water supply; Industrial relations; Mining and mineral resources; Occupational safety; Pilbara; Port Hedland; Typhoid epidemics; Workers

Further reading: J. J. Gresham, *Kambalda: history of a mining town* (1991); N. K. Sligo, *Mates and gold: reminiscences of early Westralian goldfields, 1890–1896* (1980); D. S. Tyrwhitt et al., 'Gold ore mining practice in Australia in 1991', in J. T. Woodcock and J. K. Hamilton (eds), *Australasian mining and metallurgy: the Sir Maurice Mawby memorial volume* (1993)

Mining technology and mineral processing Industries extracting building materials and their constituents from quarries and clay pits were the colony's first mining activities. Limestone was quarried for building stone and for burning in kilns to make lime, and clay was dug for brick-making. The colony's first metal mine, the Geraldine lead mine near Ajana, exported ore in 1850 and later briefly operated a smelter. A number of small, open-cut or shallow-shaft lead and copper mines, near Northampton, became the focus of mining in the 1870s.

During the 1890s, prospectors discovered most of the colony's major outcropping auriferous deposits. With limited water supplies, diggers used gravity and natural breezes, or bellows-driven 'dry blowers', to separate out alluvial gold. Surface outcrops were followed underground by shafts and crosscut tunnels. Ore was broken by hand-drilling and blasting. Lump ore was crushed to pulp in stamp batteries, and the gold extracted by mercury amalgamation in mortar boxes and on amalgamation tables. The Kalgoorlie-Boulder mines quickly adopted the cyanide process, but to overcome difficulties in extracting gold from fine pulp, or slimes, the slimes were pumped into filter presses, and the gold cyanide solution washed out of the presses with water.

Intensive research developed two rival processes to treat the deeper, more refractory sulpho-telluride ore, known as the dry crush and roast process and the Diehl process. During this period (1902–07), Kalgoorlie was the world's leading centre for gold extractive metallurgy. Mechanical rock drills were introduced in the late 1890s, but 'wet' drilling, which reduced the serious incidence of miners' lung diseases, did not become universal until the 1920s.

During the late 1920s Kalgoorlie metallurgists, led by those at the Western Australian School of Mines, successfully adapted the Broken Hill flotation process, achieving economies in processing to assist the industry's revival. During the 1980s many former gold mines were re-worked by open-pit mining. Package treatment plants, in which gold was precipitated by activated carbon instead of zinc, were developed to achieve economical, high extraction rates.

Iron ore mining in the Pilbara, by Rio Tinto and BHP Billiton, is carried out on such a massive scale that there are few other regions that are of comparable importance in world mining. After drilling and blasting operations in 15-metre-high benches, electric shovels load the broken rock into rear-dump trucks, which haul the ore to primary crushers, from which it is conveyed to train loaders. At the ports, after further crushing and screening, the lump ore and fines are conveyed to boom stackers, which build stockpiles blended from different ore types, depending upon the buyers' requirements. Bucket-wheel reclaimers draw ore from the stockpiles for conveying to the ship loaders. Although both companies are committed to downstream processing of ore in WA, none of the plants that have been built have proved to be profitable.

Western Mining Corporation (WMC) explored the Darling Range bauxite deposits in the 1950s, and formed Alcoa of Australia with Alcoa of USA in 1961. Ore mined near Jarrahdale and Dwellingup in shallow open pits was railed or belt-conveyed to refineries at Kwinana and Pinjarra. (A third, at Wagerup, was opened later.) All three refineries produce alumina by means of the Bayer process (introduced 1888), in which crushed bauxite is digested in autoclaves with caustic soda.

WMC's Kambalda nickel discoveries in 1966 started another mineral industry. Kambalda nickel concentrates were railed to the company's Kwinana nickel refinery, which uses Canadian ammonia pressure leaching techniques. In 1972 WMC adopted Finnish flash smelting technology for its Kalgoorlie smelter. A second, larger flash smelter, designed by WMC, and incorporating acid recovery, was built later. The smelters also custom-smelted ore for other companies. In the 1990s WMC moved the focus of its nickel mining to extensive, lower-grade deposits at Mount Keith. At the same time, three other companies commenced mining lateritic nickel deposits near Kalgoorlie, and built processing plants utilising innovative high-pressure acid leaching.

There has been no shortage of innovative ideas in mineral processing in the last hundred years in WA, but to be successful all have needed patience, perseverance and pilot plants. **Richard G. Hartley**

See also: Eastern Goldfields; Geraldton; Kalgoorlie-Boulder; Kwinana; Mining and mineral resources; Pilbara; Pinjarra
Further reading: G. Blainey, *White gold: the story of Alcoa of Australia* (1997); A. L. Lougheed, *The cynanide process and gold extraction in Australasia*, 1888–1913 (1985); A. L. Lougheed, *Cyanide and Gold* (2001); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993); R. T. Prider (ed.), *Mining in Western Australia* (1979)

Mining towns, heritage The first mining camps established as new goldfields were opened up in the 1880s and 1890s, and

were generally haphazard arrangements of iron shanties and tents. However, the majority of buildings were timber-framed and clad with corrugated iron, whitewashed hessian or canvas, with a corrugated-iron roof. Some had brush verandahs and brick chimneys. Flattened kerosene tins, flour bags sewn together and packing cases were also commonly used. These materials were lightweight, easy to transport, and were used for all types of buildings. In some centres, buildings were constructed of 'found' materials, such as stone (Gwalia and Lake Austin), framed bush post clad with brush (Meekatharra and Mount Magnet), adobe or mud brick (Leonora and Sandstone). There are very few of these early buildings remaining. Extant examples of corrugated-iron-clad buildings include the Masonic Lodge in Cue and Meekatharra's St Oswald's Church, and there are remains of dry stone-wall huts at Lake Austin.

After gazettal as official townsites and the appointment of local government authorities, mining centres such as Cue, Coolgardie, Malcolm and Leonora took on a more orderly appearance. Most towns were laid out on a rectangular grid pattern, with wide main streets accommodating commercial and retail premises, and with residential buildings in the streets behind.

Due to the flammability of timber and cloth materials, fire was a constant danger in the early mining towns. Following Coolgardie's 'great fires' in 1895, centres such as Kalgoorlie introduced regulations prohibiting the construction of hessian buildings. Imported or locally made brick or local stone were used for the second-generation buildings. Many were architecturally designed. All mining towns had hotels, boarding houses, stores, brothels and clubs, banks, churches and schools, as well as government buildings accommodating a court house, town hall, police station, post office and mining registrar's office. The larger centres also had a hospital, newspaper offices and printing works, engineering works,

breweries and ice works to meet the needs of the local population.

With the exception of hotels, most buildings in the smaller centres remained single storey (such as Sandstone, Leonora and Menzies). In regional centres, lavish multi-storeyed commercial and public buildings reflected confidence in continued mining activity in the area. Kalgoorlie, Coolgardie and, at a more modest level, Cue and Mount Magnet are prime examples of this trend. Again, it is in the hotels that the opulence associated with the gold finds is most lavishly illustrated (such as in Kalgoorlie's Exchange Hotel).

There are many ghost towns throughout the Western Australian goldfields that were once thriving mining centres. In some instances there is nothing left. In others, such as Ora Banda, Broad Arrow and Kookynie, almost all that remains from the gold-rush period is a solitary hotel. Gwalia, Leonora and Cue are more substantial examples of mining centres developed within a limited timeframe. Others, such as Kalgoorlie, continue to evolve while maintaining largely homogeneous streetscapes of the federation period.

Notwithstanding the permanent nature of government and commercial buildings in major mining centres, mining operators continued to build lightweight and transportable buildings into the twentieth century. This was due to the cost and availability of materials and the temporary nature of many of the mining settlements. There is a long tradition in WA of relocating buildings or recycling materials as mining activity moved from one place to another.

From the 1950s mining companies began to provide more facilities for their employees, such as single men's quarters and dining rooms. More recently, settlements established around new mining ventures have generally been designed to be temporary in nature and are self-contained mining towns. Improved facilities are provided for staff, with specially designed single quarters with en suites,

recreational facilities and on-site catering supplied by the mining company. Most employees are on 'fly-in, fly-out' arrangements, and there is little demand for commercial services in these settlements. This is a long way from the company miner, who had to provide all food and lodging for himself and his family. **Jacqui Sherriff**

See also: Mining and mineral resources; Mining, camps and accommodation
Further reading: N. King, *Ghost towns of the north country* (1974); M. Webb and A. Webb, *Golden destiny: the centenary history of Kalgoorlie-Boulder and the Eastern Goldfields of Western Australia* (1993)

Mirror The *Perth Mirror* was a survivor among many small newspapers that appeared around the time of the First World War. Most of them quickly folded. The *Mirror*, however, survived then prospered. In 1922 it was purchased for £100 from Bryan's Print by Victor Courtney, idealistic young journalist, and J. J. 'Boss' Simons, patriotic youth leader. In their hands the paper skilfully massaged Perth's small-town prejudices regarding gender, race and class. It attacked the 'feather headed flappers and flash young men' and 'gorging and guzzling by the older rich', but also the 'dour-faced element in the community'. It titillated Perth males in a constrained way and, unlike *Truth*, it was 'a clean dirty paper'.

The *Mirror* survived through the twenties with colourful and highly illustrated accounts of sensational murders, including one in the Government House ballroom. It was helped through the Depression by Money Words, a competition that swept the state, and by 1935 the typically threadbare *Mirror* was able to purchase the substantial *Sunday Times*, with the help of mining entrepreneur Claude de Bernales.

Under the editorship of Frank Davidson, 1935 to 1944, the *Mirror* discovered divorce hearings, private detectives (Alfred R. Sleep)

and punned headings ('Butcher Neck hops in for his chop'). It proved a winning combination. Many of the *Mirror*'s 60,000 wartime purchasers (1939 circulation: 21,000) were American servicemen, who provided much of the paper's raw material. The *Mirror* and *Sunday Times* were purchased in 1954 by Rupert Murdoch, then twenty-two—a first tiny step on the way to his becoming a media czar. Two years later he closed the *Mirror*. It was not, he said, 'a principled paper'. **Ron Davidson**

See also: Journalism; *Sunday Times*
Further reading: R. Davidson, *High jinks at the hot pool* (1994)

Mission schools Between 1854 and 1954 about thirty Christian missions were established in Western Australia, and the majority had a school, although few employed qualified teachers. Lay missionaries added teaching to their duties, and a shortage of staff would close the school.

At New Norcia in the nineteenth century and on the remote missions of the Kimberley, the Aboriginal child's education combined basic literacy with training for adult employment on the mission. With a few exceptions, the children were removed from their families to a routine of church, dormitory, dining room, school and work experience. Separation from the family and home language was considered essential for the child to learn and adopt European-Australian patterns of behaviour.

The Catholic mission at Beagle Bay (1890) was the first Kimberley mission school to apply the home language in the classroom. It was one of the first to receive children removed from their families under the 1905 *Aborigines Act*. In 1914 it accommodated seventy-four girls and fifty-seven boys. After school, the girls were trained in housekeeping and gardening while the boys learned station skills such as stock work, blacksmithing, saddlery, butchering, stock

care, boot-making, tailoring, windmill maintenance and fencing.

In 1923 the Forrest River mission dormitory children were awakened at first light for prayers, church and breakfast. They attended school each morning except Sunday and each afternoon worked in the mission gardens and did other chores. Forrest River and Mount Margaret missions employed qualified teachers and tried to match the government school curriculum. Mount Margaret school, under Mrs M. M. Bennett, proved that, given equal conditions and a good teacher, Aboriginal children could achieve equally with others.

The mission schools at Gnowangerup (1928), Badjaling (1930) and Kellerberrin (1939) provided for children excluded from government schools in the southern regions. Nyoongar men built the Badjaling school with wheat bags tied over a bush timber frame and old boxes were made into desks and chairs. At Gnowangerup about forty children were taught in a makeshift room with a piece of painted tin as a blackboard.

Mission schools received little financial support from the Aborigines Department, and only two, Kellerberrin (1941) and Carnarvon (1949), were staffed or supplied by the Education Department. When Dr Robertson, the Director General of Education, offered to staff and equip mission schools, the following missions responded: Roelands (1951), Mogumber (1952), Jigalong (1952), Norseman (1952), Mount Margaret (1952), Forrest River (1953), Fitzroy Crossing (1954), Gnowangerup (1954), Marribank (1955), Cundeelee (1955), Karalundi (1955), Sunday Island (1955), Warburton Ranges (1955), Wandering (1959), Nullagine (1959), Tardun (1960), Cosmo Newbery (1960), La Grange (1960) and Kalumburu (1963). Lombadina (1968) and Balgo (1961) accepted government teachers but later returned to Catholic administration.

The diversity and isolation of remote missions in WA became a major staffing problem.

With the exception of Balgo, Aboriginal families at the Kimberley missions lived in simple houses, wore western dress on and off the missions and spoke sufficient English, or Kriol, for classroom communication. By comparison, the families on the desert missions such as Balgo, Jigalong, Warburton Ranges and Cundeelee slept on the ground in the open, or shared a traditional bush wiltja with the family. School beginners might arrive naked, have no previous exposure with English and be traumatised by confinement within the classroom. In the years after 1971 most missions became independent Aboriginal communities, where children lived with their families, and the schools, up to year twelve, were staffed and equipped equal to city schools. **Neville Green**

See also: Aboriginal education; Missions; Moola Bulla native settlement; Moore River mission; New Norcia mission
Further reading: M. Berson, *A fair chance in life: primary schools and primary principals in Western Australia 1850–2005* (2006); N. Green, *Desert school* (1983); M. Morgan, *A drop in the bucket* (1986)

Missions Apart from prisons and reformatories there were four major forms of institution for Indigenous Australians in Western Australia: settlements; ration depots; orphanages; and at least thirty missions administered by the major Christian denominations, or by religious groups such as the United Aborigines Mission (UAM).

The government settlements in the Kimberley, namely Moola Bulla (commenced 1910), Munja (1922) and Violet Valley (1911), provided refuges for people dispossessed by pastoralism. The southern settlements, Carrolup (1915) and Moore River (1918), held men, women and children removed from their families and country by the Chief Protector using his authority under the state's *Aborigines Act* (1905). The Kimberley

settlements were all closed by 1955. Carrolup became Marribank Mission (Baptist, 1952), and Moore River the Mogumber Mission (Methodist, 1951).

The earliest ration depot was the Perth Native Institution (1833) below Mount Eliza. In the twentieth century, ration depots were established in remote areas where Aboriginal families were affected by drought or dispossession from their homelands. Some depots became missions, notably Lombadina (Catholic, 1911), Jigalong (Apostolic, 1946), Cundeelee (Australian Aborigines Evangelical Mission, 1950), Fitzroy Crossing (UAM, 1952), Cosmo Newbery (UAM, 1953) and La Grange (Catholic, 1955).

The Christian orphanages and homes for Aboriginal children included Annesfield (1852), Ellensbrook (c. 1878), the Swan Native and half-caste mission (c. 1880), Dulhi Gunyah (Australian Aborigines Mission, 1909), Holy Child Broome (Catholic, 1912), and the Salvation Army homes at Collie (1905) and Kalgoorlie (1907). Sister Kate's Homes (1933) accommodated children removed from families under the *Native Administration Act* (1936).

The two best known Roman Catholic missions in WA—New Norcia (1846) and Beagle Bay (1891)—were established when missions were committed to weaning Aboriginal children away from their home beliefs and preparing them for an assimilated lifestyle as servants and labourers. In the outback, the extinction of traditional Aborigines was anticipated, and remote missions were founded to protect and comfort the remnant. These included Sunday Island (1898), Forrest River (Anglican, 1913), Kalumburu (Catholic, 1907), Pt George (Presbyterian, 1910), Kunmunya (Presbyterian, 1916), Warburton Ranges (UAM, 1933) and Balgo (Catholic, 1939).

Of the missions created for the support of dispossessed and pauperised Aboriginal families, Mount Margaret (1921), near Leonora, was the best known. In the early twentieth century, missions also existed to educate Aboriginal children denied admission to town schools, the most notable being Gnowangerup (UAM, 1928), Badjaling (UAM, 1930), Kellerberrin (UAM, 1939) and Carnarvon (Church of Christ, 1946).

Some missionaries, such as that of the Rev. J. R. B. Love at Kunmunya, respected the traditional language, beliefs and customs of those coming into the mission. Other missionaries, however, through the church, dormitory and school, weakened the family bonds, silenced the home language and attempted to obliterate the traditional past. The few missions that continue today are self-managing communities with elected Indigenous councils. **Neville Green**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal education; Aboriginal legislation; Carrolup child artists; Feeding depots; Mission schools; Moola Bulla native settlement; Moore River mission; New Norcia mission; Perth Native Institution; Sister Kate's; Stolen generations

Further reading: P. Biskup, *Not slaves, not citizens* (1973); N. Green (ed.), *The Oombulgurri story* (1988); M. McKenzie, *The road to Mowanjum* (1969); M. Morgan, *A drop in a bucket* (1986); E. Perez, *Kalumburu: the Benedictine Mission and the Aborigines, 1908–1975* (1977); G. Russo, *Lord Abbot of the wilderness* (1979)

Moola Bulla native settlement Moola Bulla native welfare settlement was established in 1910 through the merger of three pastoral stations in the Kimberley region. The Aborigines Department purchased Nicholson Plains, Mary Downs and Greenvale stations to create a pastoral reserve or a 'ration station' for Aboriginal people to help reduce cattle killing. Gradually, the role of the settlement changed to provide stock camp and domestic training for young men and women. It also became a temporary prison

for Aboriginal people convicted of minor offences. Aboriginal people worked under the supervision of white stockmen. They were not paid for their labour, but instead given rations, such as beef, flour, sugar, tea, blankets and clothing. Half-caste Aboriginal children forcibly removed from their parents were sent to Moola Bulla. In 1929 a school opened on the station, providing education for children residing at Moola Bulla. It became such a popular institution that Aboriginal parents from nearby stations sent their children there.

In 1955 the state government sold the station to private interests, saying it was in the 'best interest of Aborigines'; the station had become too large to manage and severe drought had depleted stock numbers. The new owners promised to allow Aboriginal families to remain on the station, but they were soon evicted and given twenty-four hours to leave the property. This resulted in an influx of families to Fitzroy Crossing. The sale raised ongoing debate for several years. The station owners continued to deny the traditional owners access to the land, causing further disputes.

In 2002 the 660,000-hectare station was sold for a record $18 million to a South African and Western Australian syndicate. In July that year there was an emotional homecoming for the Aboriginal people evicted from the pastoral station forty-seven years earlier. In July 2003 a portion of Moola Bulla station was excised for eventual return to the Aboriginal people of the area. The new station owners voluntarily agreed to surrender about eight thousand hectares of land when the state government renewed the pastoral lease.
Narelle Thorne

See also: Aboriginal culture and society; Feeding depots; Mission schools; Missions
Further reading: H. Achoo et al., *Moola Bulla: in the shadow of the mountain* (1996); H. Rumley and S. Toussaint, 'For their own benefit? A critical Overview of Aboriginal Policy and Practice at Moola Bulla, East Kimberley, 1910–1955,' *Aboriginal History*, 14 (1990)

Moore River mission Moore River native settlement was established in 1918 as an institution to assimilate or 're-educate' Aboriginal people into white culture. Under the 1905 WA *Aborigines Act*, the Chief Protector of Aborigines was legal guardian of all Aboriginal and half-caste children in the state. Consequently, hundreds were taken from their parents, most forcibly, to Moore River native settlement, to be trained as 'useful' labour for white society, such as domestic servants and farm labourers. Basic education was provided to the children before they were sent off to work when they reached their teenage years. The role of Moore River changed, however, as its isolation allowed authorities to send to the settlement any Aboriginal person considered a problem to white society, including the unemployed or those labelled 'a nuisance'. Many such adults were sent to Moore River, with and without children. Children, kindergarten age and above, arriving with their parents were relegated to dormitories and parents to the camp. The settlement was described by former residents as 'a concentration camp', with the inmates forced to live in squalid and overcrowded conditions. Inmates were mainly fed bread, fat and sugarless black tea supplemented by porridge, watery soup and mutton by-products. Scabies, measles, chickenpox and pneumonia were rampant. Attempts to make the settlement self-sufficient through farming activities failed. Numerous children fled the settlement only to be captured, sent back and punished, firstly with a caning and then locked in the *boob* (gaol). The movie *Rabbit Proof Fence*, based on Doris Pilkington's book, documents the epic journey of three such escapees walking more than 2,400 kilometres back to their homeland in Jigalong.

The Moore River native settlement was taken over by the Methodist Church on 13 August 1951 and renamed Mogumber Mission, with the Rev. E. A. Clark as the first superintendent. Thereafter, few if any adults were sent there. It was formally closed in 1965. Twenty-five years later, the Wheatbelt Aboriginal Corporation (WAC) signed a ninety-nine-year lease agreement with the state government to manage the former mission and farm. Since then, WAC has retrieved a huge collection of photographs and information relating to Moore River Native Settlement to help former inmates trace their family records. WAC has also built a commemorative wall for the hundreds of people who were buried at the settlement between 1917 and 1964 and lie in unmarked graves. The Moore River native settlement cemetery is believed to be the largest Aboriginal burial ground in Australia, with more than four hundred people buried there. **Narelle Thorne**

See also: Aboriginal child labour; Aboriginal culture and society; Aboriginal legislation; Cemeteries; Mission schools; Missions
Further reading: H. Anderson, H. Little and W. Wolfe, *Nyoongar Yorgas remember: early days at Moore River Settlement* (1993); A. Haebich, *For their own good* (1988); S. Maushart, *Sort of a place like home: remembering the Moore River Native Settlement* (2003); R. van den Berg, *No options, no choice!: the Moore River experience: my father, Thomas Corbett, an Aboriginal half-caste* (1994)

Moral Re-Armament (MRA) is a global network of people of different faiths aiming to make a better world. The movement grew out of the ideas of the Oxford Group, brought from the UK to WA in 1937 by Canon John Bell of Christ Church, Claremont, Dr Hubert Trenaman of Wesley College and then by the Rev. Jack Watts.

In 1938, as nations were re-arming for war, the American founder of MRA called for a 'moral and spiritual re-armament' to work towards a better world. Prime Minister John Curtin, MP for Fremantle, was attracted by these ideas when he heard about them from his private secretary, Fred McLaughlin. Kim E. Beazley, the next MP for Fremantle, also became interested and attended the MRA world conference in Switzerland during an official overseas trip in 1953. It was a turning point in his life, motivating him to work successfully towards getting Aboriginal Land Rights onto the ALP platform and, as Minister for Education, introducing a 'needs' policy for educational funding that provided extra resources for Aboriginal education and recognised Aboriginal languages as the medium for primary education of Aboriginal children living traditionally.

Beazley and his wife, Betty, were very active in MRA, giving lectures overseas to propagate its ideas. MRA conferences were held in Perth in the 1950s and 1960s, attracting such diverse speakers as Sir Charles Court; Sir Paul Hasluck when Foreign Minister; Rajmohan Gandhi, Indian author and grandson of Mahatma Gandhi; Mme Irene Laure, formerly Secretary General, Socialist Women of France; Jim Beggs, when National Chairman of the Waterside Workers' Federation; the Hon. Al Grassby; Aboriginal leader Ken Colbung; and Dame Mary Durack. Another means of promoting MRA was through plays, performed in Perth, in the Pilbara and at Kwinana, including a musical revue, *Anything to Declare*, staged at His Majesty's Theatre. In 2005 the movement adopted the operating name 'Initiatives of Change'. **Gordon Ashman**

See also: Aboriginal education; Peace movement; Spirituality and religion
Further reading: M. Brown, *No longer down under: Australians creating change* (2002); G. Lean, *On the tail of a comet: the life of Frank Buchman* (1988)

Motor racing The first motor race in Western Australia was recorded in November 1902 between Alf Mather, Dunlop state manager, and Bob Dudgeon a local engineer, at the Old Association Ground in East Perth. Mather won the 8-kilometre race at an average speed of 24 kilometres per hour. The Automobile Club of Western Australia (later the Royal Automobile Club) was established in 1905 to harness the growing interest in motorsport and to represent the interests of motorists. Francis Birtles and Syd Ferguson's epic twenty-eight-day drive from Fremantle to Sydney in 1912 in their single-cylinder Brush tourer, and several early Armadale to Albany runs, did much to stimulate interest in motoring.

Hill climbs became a feature of early motor racing in the West. In 1917 a formal hill climb was organised on the Welshpool Road over a 6-kilometre course; in 1919 the RAC organised a climb up Mount Street in central Perth, and climbs were held in the Perth hills and country areas.

In 1931 the West Australian Sporting Car Club (WASCC) assumed responsibility for organising motor racing events, and the following year the Western Australian Car Club was established to provide competition for unmodified road cars. Lake Perkolilli, north-east of Kalgoorlie and considered one of Australia's best natural motor racing circuits, hosted the 1931 West Australian Grand Prix, the 70-mile race being the longest in WA to date. In 1932 a private consortium, Brooklands WA Pty Ltd, built a one-mile race circuit at the West Subiaco Aerodrome (Perry Lakes). It was the second purpose-built motor race circuit in Australia. An accident between an aeroplane and spectators marred the second meeting and the company declared itself bankrupt.

An innovative and popular feature of motorsport in WA was the 'around the houses' events. Based on the Monaco road race, the first was held in Albany in 1936. On 11 November 1940 the Patriotic Grand Prix was held around the streets of Applecross. In 1951 the Jubilee Australian Grand Prix was held at Narrogin. The 1955 Le Mans tragedy, in which some eighty spectators were killed, sealed the demise of these events, confining motor racing to dedicated circuits.

After the war the WASCC secured the use of the wartime airfield at Caversham, a site ideally suited to motor racing. In 1946 the Victory Grand Prix attracted a crowd of some 60,000, who came to watch the first postwar motor race in Australia. An annual Six-Hour 'Le Mans' Race for sedans and sports cars at the Caversham circuit was held over the period 1955–72. Until 1960 it was the longest endurance race in Australia. The WASCC hosted the Australian Grand Prix on several occasions: in 1957 and 1962 at Caversham, and in 1979, after the club moved to its purpose-designed Wanneroo Park circuit in 1969.

The WASCC announced the construction of a 'short circuit' of 1.7 kilometres in 1992. It was suitable for a wide variety of motor racing events, especially the popular touring-car series. The Barbagallo Raceway, Wanneroo, opened in 1993. The highlight of the motor racing season is the Western Australian Round of the V8 Supercar Series. In 2000 the $20 million Quit Motorplex opened at Kwinana Beach to provide state-of-the-art facilities for drag racing, dirt-track speedway, burnout competitions, street machine car shows and supercross events.

For seventy years speedway racing in the West remained synonymous with the Claremont Showgrounds. Started on 14 May 1927 by John Hoskins, the Claremont Speedway was, until its close, one of the world's oldest tracks. Its tight circuit (641 yards) was intensely popular with drivers, riders and the crowd. It claimed eighteen fatalities, including one spectator, over its history. It closed in 2000, due, in part, to residential pressure and the opening of the new facilities at the Motorplex complex. **John J. Coe**

See also: Motor vehicles
Further reading: J. Harwood, with J. J. Coe, *Life's a hoot* (2004); T. Walker, *Around the houses: a history of motor racing in Western Australia* (1980)

Motor vehicles Development of internal-combustion engines in the late nineteenth century made possible the development of reliable motor vehicles, ranging from motor-bikes to huge road trains, in the twentieth century. They revolutionised transport in WA.

The first motorcar was driven down Hay Street on 10 March 1898. Early vehicles were expensive and unreliable and the roads barely suitable for them, but their novelty and increasing practicality saw their gradual adoption in the community. The first motor race was held at the WACA ground in 1902, and the Automobile Club (later Royal Automobile Club WA) founded in 1905, by which time there were over a thousand motor vehicles in the Perth area. Motor vehicles were recognised as superior to horse-drawn vehicles, using less than half the road space and then considered less polluting than horses.

Motor vehicle numbers grew rapidly after the First World War. In 1918 there were 2,538 motor vehicles in the state; ten years later their number had increased tenfold to 25,270. This rapid growth began forcing governments to improve roads to cater for motor vehicles, creating a cycle of increasing motor vehicle numbers with increased performance demanding more and better roads. In regional areas motor transport began revolutionising long-distance transport, with, for example, the creation of Gascoyne Traders using motor trucks in the early 1920s. The Royal Automobile Club (WA) had a thousand members by 1923.

After the Second World War, motor vehicles became much cheaper and ubiquitous in the community. Car ownership had been a sign of relative wealth between the wars, but the two-car family had become commonplace by the 1970s. In 1974 there were 537,900 motor vehicles in WA, and 400,000 were motor cars and station wagons. Thirty years later the number of vehicles in WA had nearly tripled. In 2004, of a total of 1,480,200 motor vehicles in the state (including campervans, light commercial vehicles, all types of trucks, buses and motorcycles), 1,122,000 were passenger vehicles (cars, station wagons and 4WDs).

Motor vehicles gave people greater freedom of movement and reshaped the urban landscape with freeways, suburban shopping complexes and large areas devoted to car parking. They also brought about an alarmingly high rate of injuries and deaths caused in motor accidents. Continuous efforts in improving road safety through public education, better designed cars and roads have reduced the road toll: in 1973 there were 5,404 road traffic accidents involving casualties in WA, but this had been reduced to 1,850 in 2000. In 1973 there were 358 people killed on the road, reducing to 164 in 2001. In 2006, however, the number of people killed on WA roads had risen to 203. In recent times attempts have been made to reverse the trend of city car use and to encourage commuters to use public transport, but to little avail. **A. John Parker and Leigh Edmonds**

See also: Buses; Motor racing; Royal Automobile Club; Town planning; Transport
Further reading: L. Edmonds, *The vital link: a history of Main Roads Western Australia 1926–1996* (1997); A. J. Parker, B. Campbell and R. Haig, *Cars, characters & crankhandles: a century of motor dealing in Western Australia* (2005)

Mount Hospital was an initiative of Henry Le Fanu, Anglican Archbishop of Perth, once chaplain at Guy's Hospital in London and founder of St Martin's Hospital, Brisbane. On 1 November 1934, the owners of the thirty-eight bed Mount Kareenya Hospital at

253 St Georges Terrace, very close to Perth's medical specialists, sold their premises to the Archbishop and a few friends. They renamed it 'Mount Hospital' and incorporated themselves as the Church of England Hospitals (Inc). The first matron was Miss A. R. Baker. Adjacent land owned by The University of Western Australia was purchased in 1936, and a modern three-storey extension of brick and reinforced concrete was completed in 1939, increasing bed capacity to ninety-five. However, loan repayments to the bank and to individuals, upkeep of the hospital and payment to nursing staff, because there was no free labour through a nursing sisterhood, curbed the church's intention to make 'charity beds' available. Following a decision to redirect its resources into other areas of community health, such as family welfare, drug addiction and alcoholism, and because of substantial wage increases approved by the Industrial Commission in 1974, the church leased the hospital to the state medical department in 1974.

A new, privately owned Mount Hospital, situated at 150 Mounts Bay Road, Perth, was established in 1986. **Phyl Brown**

See also: Anglican church; Nursing; Public health
Further reading: F. Alexander (ed.), *Four bishops and their See* (1957)

Multicultural writing Writers whose mother tongue was not English have contributed to the history and literature of Western Australia since the early years of European settlement. Among them was Spanish monk Bishop Rosendo Salvado, founder of New Norcia, whose memoirs, first published in Italian in 1851, offer an invaluable record of early colonial history.

So-called multicultural writers of fiction did not emerge until a century later. Among them were Judah Waten (*Alien Son*, 1952), who migrated from Russia to WA in 1914,

aged three, but lived in Melbourne from 1926. Greek writer Vasso Kalamaras (*Other Earth*, 1977) and Italian novelist Antonio Casella (*Southfalia*, 1980, *The Sensualist,* 1991) are among the first WA writers who were recognisably 'ethnic'. The 1980s and 1990s gave birth to a number of writers whose cultural origins reflected the diverse mix of the WA population. Among them: Joseph Gentilli, Italy (*Italian Roots in Australian Soil,* 1983), Alfredo Strano, Italy (*Luck Without Joy*, 1986), Emma Ciccotosto, Italy (*Emma: A Translated Life*, 1990), Mate Alac, Yugoslavia (*Into the world,* 1992), Fotini Epanomitis, Greece (*The Mule's Foal*, 1993), Simone Lazaroo, Singapore (*The World Waiting to be Made*, 1994, *The Australian Fiancé*, 2001, *The Travel Writer,* 2006), Hanifa Deen, Pakistan (*Broken Bangles*, 1998), Rosanne Dingli, Malta (*Death in Malta*, 2001), Michelle Drouart, Jordan (*Into the Wadi*, 2003), and poet Miriam Wei Wei Lo (*Against Certain Capture*, 2004).

One cannot speak of a multicultural 'voice' in WA writing, given the wide-ranging backgrounds of the writers. Nevertheless, these writers are important in that they bring unique images, experiences, language rhythms, tones and perspectives to the literary kaleidoscope of the region. **Antonio Casella**

See also: Fiction; Life writing
Further reading: *AustLit: The Resource for Australian Literature*, www.austlit.edu.au

Multiculturalism Approximately one-third of the population of Western Australia at the beginning of the twenty-first century was born overseas, with 12 per cent of all residents born in countries where English is not the first language. More than 200 birthplace countries are represented in the state, with over 170 different languages spoken and more than 100 religious faiths practised. Languages other than English are spoken in the home by 11 per cent of Western Australians.

Multiculturalism is a public policy that facilitates full and equitable participation of all members of a plural society in the economic, social and cultural life of the community. It enables them to maintain and celebrate their distinct cultural heritage, while accepting a commitment to democracy, laws and values such as tolerance, equality and a 'fair go'. Basic to the principles of multiculturalism is the requirement to address discrimination and racism. Despite its supposition of being an inclusive policy for all Australians, multiculturalism has primarily focused on ethnic groups and immigrants, and although acknowledging Indigenous peoples, did not in the past address their needs, priorities and concerns, partly due to the views of Indigenous Australians themselves, who saw multiculturalism as rejecting their status as the original inhabitants of Australia. Only recently has this situation been addressed.

Multiculturalism was introduced to Australia as federal policy by the Whitlam government in 1973, subsequently taken up by state governments and formally adopted in WA in 1983. Since then it has undergone several changes, reflecting the political views of successive governments. Despite being part of the political landscape for the past thirty years, the concept of multiculturalism is still relatively misunderstood by the majority of the general public. Some sectors, such as the One Nation Party, have used multiculturalism to fuel arguments against immigration and settlement policies on the basis that it is perceived as divisive, encourages ethnic 'ghettos' and is 'un-Australian'. Other factions see multiculturalism as doing little to reform society or bring social justice to minority groups.

Prior to the 1970s, cultural diversity in WA was practically ignored by the policy of assimilation that assumed that immigrants on arrival, especially those from non-English-speaking-background countries, would leave their 'cultural baggage' and language at the docks and immediately embrace, and practise, Anglo-Australian values and behaviour. Although they were expected to fit in to Western Australian society, there were few settlement services for immigrants and little encouragement for full and equitable participation. Immigrants, or 'New Australians', as they were termed, often found themselves excluded from political and social institutions and consequently at the bottom of the economic ladder. However, this exclusion led them to maintain cultural practices and develop ethnic organisations that partly filled the gap in meeting the needs of new arrivals. Recognition of this situation led to the formal adoption of the policy of integration that encouraged the celebration of ethnic and cultural diversity through song, dance and food festivals. The federal Galbally Report (1977) subsequently laid the foundations for introducing a social justice perspective in the progression from integration to the adoption of multiculturalism as a public policy instrument.

From as early as the 1950s, ethnic community organisations were instrumental in lobbying the federal government for a greater recognition of the social and economic needs of non-English-speaking-background Australians. In 1975 the International Communities Council restructured as the Ethnic Communities Council of Western Australia to represent ethnic community organisations and join eastern states counterparts in lobbying for social justice through access and equity with regard to government-funded and provided services. The Federation of Ethnic Communities Councils of Australia (FECCA) was also established that year.

In the early 1980s a number of organisations and initiatives were established, partly in response to ethnic lobby groups. These included the Australian Institute of Multicultural Affairs, SBS, the Office of Multicultural Affairs, the Bureau of Immigration Research, the adoption of National Language Services Policy, and an Access and Equity policy

which all Commonwealth departments were expected to adopt and implement. As well, Commonwealth-funded Migrant Resource Centres were set up in each state.

In 1983 the state's *Multicultural and Ethnic Affairs Commission Act* led to the setting up of the Multicultural and Ethnic Affairs Commission (MEAC) in 1984, whose task was to advise the government on access and equity and to assist each state government department in developing Multicultural Access Plans and then Multicultural Policy Implementation Plans (MIPS).

Throughout the 1990s the policies, programs and services linked to multiculturalism were gradually eroded. In 1991 the Office of Multicultural Interests (OMI) in WA, an office with significantly reduced staff numbers and fewer responsibilities within the Premier's department, replaced MEAC. By 1996 the Howard government had dismantled all federal public institutions supporting multiculturalism except for SBS, including the National Languages Institute and the Community Settlement Services Scheme. 'Mainstreaming', which assumed existing programs and services were sufficient to accommodate the needs of people from culturally and linguistically diverse backgrounds, had largely replaced the former 'ethno-specific' approach

Though changed, multiculturalism in WA is still a state government policy, and OMI retains an advisory role for the government, provides information to the general public, distributes small grants to community organisations and runs a community awareness strategy highlighted by its annual Harmony Week. Commonwealth and state-funded services are now provided through several community-based migrant service agencies, such as the Multicultural Services Centre, South Metropolitan and Metropolitan Migrant Resource Centres, and agencies such as the Ethnic Disability Advocacy Centre, Ethnic Child Care Resource Unit, Kulcha, and Ishar, a health service for women.

Arguably, the greatest inadequacy of multiculturalism has been its failure to deal satisfactorily with systemic racism. To address this at state level, state premier Geoff Gallop introduced the *WA Charter of Multiculturalism* in 2004. This was followed in 2005 with the launch of the *Policy Framework for Substantive Equality* that is based on the principles of the Charter. This policy aims to address racism and improve access and equity for all Western Australians, therefore promising to do more to achieve the objectives of multiculturalism than any previous state policy or program. **Anne Atkinson**

See also: Equal opportunity legislation; Languages of migration and settlement; Migrant ethnic associations; Migration
Further reading: L. Jayasuriya, *Immigration and multiculturalism in Australia* (1997); J. Jupp (ed.), *The Australian people: an encyclopaedia of the nation, its people and their origins* (2001); *Spectrum: the journal of the Multicultural and Ethnic Affairs Commission of WA* (1986–1987)

Murchison The Murchison region, named in 1839 after R. I. Murchison, President of the Royal Geographical Society, first extended from the Murchison River hinterland to the South Australian border. Today, this mining and pastoral region is located within the Shire boundaries of Murchison, pastoral Mullewa, Yalgoo, Mount Magnet, Sandstone, Cue, Meekatharra and Wiluna. Within these shire boundaries are the Aboriginal Yamatji tribes of Wajarri, Badimaya, Widi and Wongi (Naiwonga), also known as Wanmala. Semi-arid and drought prone, with extreme temperatures and intermittent rainfall under 250 millimetres per annum, the Murchison is sparsely populated, with approximately 4,000 permanent residents.

This rich auriferous region, where Archaean rocks form the basis of the mainly red earth

plains, has not undergone any major upheaval since the Precambrian period. Precious metals, gems, the oldest rocks identified on earth and the Dalgaranga meteor impact site are found here. Ochre mined at Wilgie Mia was traded across the continent by Aboriginal peoples.

In 1854 Robert Austin led an epic expedition into the north-eastern interior, and his prediction of 'one of the finest goldfields in the world' was eventually realised. Meanwhile, the vast saltbush and mulga plains beckoned, and, in 1865, merino flocks, initially from coastal districts, were shepherded into the interior to Yuin Station, founding the Murchison pastoral wool industry. Unique infrastructure included mulga picket yards, round shepherd wells, shearing sheds built with a twin-curved roof and three rabbit-proof fences.

Some Aboriginal groups adapted to life at the station communities, retaining traditional skills while learning the new. Although life for and with the newcomers was not without its difficulties, some lifelong and mutual friendships were formed on pastoral properties from the times when Aboriginal people were not permitted to live in townships.

Payable gold was discovered in 1887, but the first Murchison Goldfield was proclaimed only after subsequent finds at Nannine (1890) and Mount Magnet (1891). Gold was then found at Cue (1892), which became for a time the region's administrative centre. Discovery in 1891 of a rich, deep reefing field enabled Mount Magnet to become the longest continuous goldmining centre in Western Australia.

Construction on the Mullewa–Murchison railway line, which serviced the Murchison goldmining centres for eight decades, began in 1894. In 1898, Cue was the centre of the world's largest Catholic Diocese. The architect–priest Monsignor J. C. Hawes, who designed and built the Geraldton Cathedral, built unique buildings in the Murchison. Mining towns in the region retain a number of Federation-style buildings of local stone, mud brick and pressed tin. Wide streets

accommodated the camel, donkey and horse teams, and now support heavy-haulage road trains.

Communication improved with a mail service to outlying properties, party-line telephones connected to an exchange and Royal Flying Doctor Service radios. Meekatharra School of the Air transmitted air lessons to station children from 1959 and a new phone service began with a world-first Digital Radio Concentrator System in 1985. The satellite has since transformed communication across the Murchison, which is intersected by only two sealed roads. An excellent site for radio astronomy has been identified for future development.

With the 1990s collapse of the wool industry, pastoralists turned to the meat market and are adopting conservation processes to ensure a sustainable pastoral industry. Gold, iron ore and vanadium deposits ensure a long-term mining industry. Tourists are attracted to the unique Murchison landscape, culture, architecture and lifestyle, dark night skies for astronomy, and, after rains, carpets of everlastings. **Karen Morrissey**

See also: Communications; Distance education; Exploration, land; Gold; Pastoralism; Royal Flying Doctor Service; Wool
Further reading: L. Day and K. Morrissey, *Drawn to Mt. Magnet: Wannars, dolly pots, shears* (1995); P. R. Heydon, *Gold on the Murchison: a tale of twin towns, Cue and Day Dawn, of people, progress and gold* (1986); M. Nixon and R. F. B. Lefroy, *Road to the Murchison: an illustrated story of the district and its people* (1988); J. J. Taylor, *Between devotion and design: the architecture of John Cyril Hawes 1876–1956* (2000)

Murders Until legislation removed the distinction in 2008, Western Australia's Criminal Code has always distinguished between wilful murder and murder, on the basis of intent. Initially no distinction was

made in sentencing for both types: a mandatory death sentence. The probability of the death sentence being commuted to 'life' imprisonment increased over time. In 1961 the death penalty became applicable only for wilful murder; from 1965 other differences were built in to sentencing.

Probably the first people to be legally executed for murder were two Aborigines, Doodjep and Burrabong, who were hanged at York in 1840 for a 'payback killing' involving Europeans. The first European to be executed for murder was John Gavin, fifteen years old, in 1846. He was a Parkhurst Reformatory boy who killed his employer's son with an adze though the body was never found. Hangings were public shows then, and until 1871; sometimes Aborigines were re-hanged at the 'crime' scene to set an example.

The relevance of British law to tribal practice was debated over the 1840s. It became obvious that Nyoongars would feel the full weight of British law when Kanyin, who knew nothing of British ways, was hanged in 1850 for a killing carried out under Aboriginal customary law.

Adult convicts began arriving in Fremantle in 1850. Around the mid 1850s those hanged for murder were predominantly ticket-of-leave men. The development of pearling then, more importantly, the discovery of gold changed the demographics of murder and murderers; two women were among those executed. The third and last woman executed in WA (in 1909) was Martha Rendell, who was accused of murdering three of her step-children by painting their throats with hydrochloric acid. She went to the gallows protesting her innocence.

In the 1920s the murders were sensational. Firstly, George Auburn was convicted in 1924 of battering a taxi driver to death. Auburn was young, well-tailored, well-connected in society and, according to the *Mirror*, a 'typical young Australian'. Auburn's crime seemed pointless and attracted vast newspaper coverage. In 1925, Audrey Jacob,

twenty years old, shot dead a former lover, watched by hundreds of horrified dancers in the glittering Government House ballroom. She was charged with wilful murder, and Arthur Haynes, her theatrical counsel, led the defence that she remembered nothing of the shooting. The jury agreed. Jacob was acquitted and the gallery cheered. The following year a double murder outside Kalgoorlie gripped public attention. Inspector John Walsh and Sergeant Alex Pitman, from the police gold-stealing squad, were gunned down by William Coulter and Philip Treffene when they raided an illicit gold smelter. After a long investigation and dramatic trial, Coulter and Treffene were hanged.

Forty-four people were hanged at Fremantle Prison, the last being Eric Edgar Cooke, burglar and random killer who, in a single night in January 1963, killed two people and wounded two others, one fatally. He was suspected of killing a total of seven, and he changed forever the key-in-the-door, sleeping-on-the-lawn lifestyle of the Perth suburbs. Prurience, not fear, prevailed when Northbridge madam Shirley Finn was murdered on the South Perth foreshore: theories abounded but her killer was not apprehended.

By the time capital punishment was abolished in 1984, there had been 403 murderers sentenced to death; of these, 136 had been executed. There was uproar for the return of the death penalty when David and Catherine Birnie admitted to the heinous rape, torture and murder of four young women they had seized in 1987. The calls were revived when the search for the 'Claremont serial killer' began with the disappearance of three young women between January 1996 and March 1997. The bodies of two of the women were later found, but by 2008 their killer had not been apprehended.

Analysis of murder data is complex. In 2003 the WA murder rate was 1.3 in 100,000 and relatively stable. Half the female victims were killed by 'intimates', while for males this figure was only ten per cent. **Ron Davidson**

See also: Capital punishment; Convict discipline and punishment; Convicts; Customary law
Further reading: J. Coulter, *With malice aforethought* (1982); R. Davidson, *High jinks at the hot pool* (1994); B. Purdue, *Legal executions in Western Australia* (1993)

Murdoch University, the second university established in Western Australia, had its origins in the Jackson Committee's report on tertiary education (1967). The rapid growth of The University of Western Australia (UWA) called for a new campus. In the light of South Australian experience it was decided that this should be an independent body from the start. The new university was located on 227 hectares of university endowment lands in the southern suburbs of Perth, about nine kilometres east of Fremantle, and named after the scholar and essayist Sir Walter Murdoch (1874–1970), who on his deathbed commented of the new institution: 'It had better be a good one.'

A planning board chaired by Sir Noel Bayliss began work in 1970, giving way to a formally constituted governing body (the Senate) founded in 1973, with Stephen Griew as foundation vice-chancellor. Griew favoured a strong emphasis on interdisciplinary studies of perceived contemporary relevance, abandoning traditional departmental and faculty structures in favour of schools of study embracing many disciplines. A specialised first-year program would include a compulsory 'trunk' course, a cross-disciplinary unit introducing students to university patterns of study. Postgraduates were admitted in 1974 and undergraduates in 1975.

In its early years Murdoch University struggled. Its strengths included a school of veterinary studies, the fourth established in Australia; an environmental studies program based on a chair endowed by the Western Mining Corporation; and a vigorous commitment to external studies attracting many mature-age students. But Murdoch was planned on an unfounded expectation that the generous funding of the Whitlam years would continue after 1975. It faced strenuous competition from the Western Australian Institute of Technology as it evolved into the Curtin University of Technology. Some of its innovations struck the public as smacking of trendy radicalism. Growth was slower than planned, and in 1978 a federal committee of inquiry recommended that Murdoch should merge with UWA. Sir Charles Court's state government rejected this advice.

During the 1980s Murdoch University gradually consolidated, with mineral chemistry, South-East Asian studies and Australian history among its areas of strength. A law school, the second in WA, was successfully established in 1989. Talk of mergers continued. In 1988–89 Murdoch University and UWA agreed on terms for amalgamation, but in 1989 the Legislative Council rejected the enabling legislation, motives of party politics being reinforced by lobbying by the scheme's opponents. The federal minister for education, John Dawkins, favoured a union between Murdoch and the Western Australian College of Advanced Education (later Edith Cowan University), but when this idea was eventually canvassed in 1996–97 negotiations broke down at an early stage.

By this time Murdoch University was strengthened by the establishment of a second campus at Rockingham. A third was to follow at Mandurah in 2003, thus consolidating a regional presence in the area of rapid population growth south of Perth. Demography meant that Murdoch still bore a special responsibility for mature-aged and first-generation students, many of them from migrant or working-class backgrounds. Its scholarly standing was attested by its professional schools; Murdoch's veterinary graduates were alone in Australia in securing recognition of their credentials in the United States without further examination. Over a ten-year period Murdoch had the strongest reputation for teaching excellence of

any Australian university. In 2005, plans were announced for the transfer of the State Department of Agriculture and Food to the Murdoch campus, together with the establishment of an Agricultural Institute. Another merger, this time with Curtin University, was also mooted that year, but did not proceed. Under John Yovich as vice-chancellor (appointed 2002), Murdoch has been an active member of the group of Innovative Research Universities. Its student numbers stood at 13,217 in 2006. **Geoffrey Bolton**

See also: Curtin University of Technology; Edith Cowan University; University of Notre Dame Australia; University of Western Australia
Further reading: G. C. Bolton, *It had better be a good one: the first ten years of Murdoch University* (1985)

Muresk Institute of Agriculture After sixty years of debate over whether Western Australia needed such an institution, Muresk College of Agriculture opened in 1926 with two staff and six students. Muresk was the existing name of its location, the former Dempster family homestead, 12 kilometres from Northam.

The Great Depression, the Second World War, financial stringency and the unpredictable rural economy meant the college struggled for several decades, with enrolments usually around forty students during the 1930s. Controlled by the Department of Agriculture, and positioned between the secondary and tertiary levels of education, Muresk languished behind the leading Australian rural colleges in the 1950s and 1960s despite efforts to increase science and management in the curriculum. The stated aim was to teach farmers' sons to become farmers, and there were no female students until 1971.

In 1969 Muresk became a recognised tertiary institution by merging into the new WA Institute of Technology (WAIT), acquiring an almost completely new staff and substantially

upgrading all courses. In 1987, WAIT became Curtin University of Technology, incorporating the Muresk Institute of Agriculture.

The agriculture and food industries continue to be very important to the state's economy, and require graduates with skills to apply across the supply chain, from the farmer to the end consumer. Today, Curtin provides most of the graduates for the industry with programs ranging from science and technology through to agribusiness and finance. **David Dolan**

See also: Agriculture; Curtin University of Technology
Further reading: G. McLaren, *75 years on: a history of the Muresk Institute of Agriculture* (2001)

Music During the early years of settlement in Western Australia the meagre population was scattered over wide distances and music was restricted to the home, fund-raising concerts for the church, or the occasional ball at Government House. Dom Rosendo Salvado received enthusiastic support for a public concert he gave in 1846 to raise funds for the Benedictine monastery at New Norcia, which was to gain an enviable reputation for its music. The Sisters of Mercy offered musical tuition for individual pupils, setting an important precedent for the other Catholic teaching orders that followed them. The internationally acclaimed pianist Eileen Joyce (1912–1991), for example, received her first music lessons at the Boulder convent. Father Albert Lynch, a violinist who later made a significant contribution to the music of the Catholic Church in WA, was also a pupil at that convent.

Visits by touring companies were a rare occurrence. The New York Ethiopian Serenaders, en route to India, were greeted with great excitement in 1851; they were the model for the local Minstrels of the West, who raised money to buy the grand piano for the Perth Town Hall after it was opened in 1870. St

George's Hall (1879) was a popular venue for public amusements. Robert Cecil Clifton constructed a pipe organ for St John's Church, Fremantle, in 1878, and a further four organs, some still in use. His cousin, Charles Leonard Clifton, formed the Fremantle Orchestral Society in 1887.

Edward Stone, a future Chief Justice, started the Perth Musical Union in 1882, and when other members of the legal fraternity who were also musicians joined that society, oratorios familiar to audiences in nineteenth-century England were performed in Perth. Francis Hart introduced WA audiences to the Savoy operas of Gilbert and Sullivan, and also worked in close alliance with Governor Sir William Robinson by providing suitable texts for the ballads which the latter composed. Hart wrote the libretto for Robinson's oper-etta *The Handsome Ransom or The Brigand's Bride*, premiered at Government House in January 1894.

The dramatic increase in population fol-lowing the discovery of gold meant that it was now financially viable for large theatrical companies from the eastern colonies and internationally renowned solo artists to include 'the West' in their touring circuits. Appropriate venues became available when Thomas Molloy built Theatre Royal (1897) and His Majesty's Theatre (1904). Theatre patrons in WA enjoyed the light comic operas in vogue overseas. Dame Nellie Melba received a rapturous welcome when she first came to Perth in 1903; Percy Grainger was the associate artist for another Australian singer, Ada Crossley, in 1904, and he returned to the state a number of times in future years.

During the gold boom musical organisa-tions flourished in Coolgardie, Kalgoorlie and Boulder. In 1905 the Boulder City Brass Band won all major prizes at the prestigious South Street competitions in Ballarat and was named the champion brass band of Australia. With increasing suburban development in Perth during this period, mixed choirs became more numerous. The Rainbow Ladies'

Choir, conducted by May Marrie from 1907 until the end of the First World War, was the first women's choir. Another important female choir was the Ladies Odeon Society (1925–58), whose first musical director was Eva Moran.

Alexander J. Leckie (1881–1966) was appointed choirmaster and organist at St George's Cathedral in 1908, and he was a driving force in establishing in 1910 the WA Music Teachers' Association (WAMTA), which worked closely with The University of Western Australia (UWA) in the administra-tion of the Australian Music Examination Board (AMEB) in this state. There were also a large number of candidates each year for British examinations conducted by Trinity College, London, and the Associated Board and London College of Music.

The repertoire of the Metropolitan Lied-ertafel (later Metropolitan Gleemen of WA), which had given concerts on a regular basis since its inception in 1901, was broadened after Leckie became conductor in 1912. With the assistance of the Metropolitan Orchestral Society more ambitious choral works were given their first WA performances. Because of the state's isolation, touring opera companies made only rare appearances. In 1928, for example, the J. C. Williamson–Melba Opera Company presented an opera series to packed houses in His Majesty's Theatre.

The establishment of the Westralian Farmers Limited Broadcasting station (6WF) in 1924 had a far-reaching effect on the devel-opment of music in WA. From its beginning it had a studio orchestra that was regularly heard on air, local musicians were engaged on a professional basis to give recitals, and programs were broadcast from a variety of outside venues.

In 1932 the Australian Broadcasting Commission (ABC) was established and a reorganised Perth Symphony Orchestra was placed under its jurisdiction. A series of six celebrity concerts held in 1936 set a pattern for succeeding years, when audiences could

look forward to performances with internationally acclaimed conductors and soloists, in addition to Australians artists of note. Dr Malcolm Sargent was a frequent visitor and on several occasions conducted the massed choirs of the University Choral Society, the Perth Philharmonic Society and North Perth Choir in works such as Mendelssohn's *Elijah.*

Women had always taken an active role in local music activities. The very successful Kylie Club (1930–69), with its associated choirs, began in the home of Mrs Jane Vincent. Women teachers gave enthusiastic support to the LAB Club (Royal Schools' Music Club), which first met in 1926 and proposed the idea of the Guild of Young Artists (1942–72) as a public forum for advanced students. After local kindergartens were closed during the Second World War, small children derived musical pleasure from Kindergarten of the Air radio broadcasts each morning.

After the war the ABC consolidated its dominant role in the state's musical life. In 1951 its orchestra was renamed the West Australian Symphony Orchestra (WASO), and additional support from state and local government enabled an increase in the number of permanent players. Country touring now became an important part of its activities, at first to the larger regional towns, then later to more remote areas, particularly the North-West. Besides the main subscription series in Perth, a youth concerts series was established in 1947, while the annual concert devoted to the state final of the ABC's Concerto and Vocal Competition launched many promising young musicians on their professional careers.

Another boost to the state's musical life was the commencement in 1953 of the annual Festival of Perth, which always had a strong musical component. In the first two festivals WASO provided concerts featuring the music of Beethoven and Tchaikovsky. By 1955 there were also performances of opera and ballet, and soon the Festival organisers became more adventurous with the premieres

of operas by local composers Meta Overman and James Penberthy.

Music courses were first provided at UWA after the Second World War. Following the appointment of New Zealand-born Frank Callaway (1919–2003) in 1953, the Department (later School) of Music was established in 1959 with Callaway as its inaugural head. He held this position until his retirement in 1984, by which time he had gained an international reputation and a knighthood for services to music education. It was largely through his efforts that UWA quickly assumed a position alongside the ABC as the state's chief promoters of musical activity. The two bodies forged a significant alliance, with regular concerts featuring the University Choral Society and WASO, enabling Perth music-lovers to experience most of the major choral works (many performed in WA for the first time). At the university itself, lunchtime concerts and University Music Society recitals provided professional engagements for local musicians, while the musicians-in-residence scheme, established in 1973, dramatically increased the number of concerts being given in Perth by renowned overseas artists.

The Music Council of Western Australia, formed in 1955, coordinated the activities of the community's musical organisations, provided bursaries to outstanding young musicians to enable them to pursue advanced studies overseas, and lobbied state and local government for the provision of a city concert hall, a public music library, and a conservatorium of music. A conservatorium was eventually established in 1985 as part of the WA Academy of Performing Arts. Through the efforts of its first Dean, Richard Gill, the Conservatorium quickly became an additional focal point for Perth's concert life, and played a significant role in increasing the level of professionalism among the state's musicians.

In the immediate postwar years the main venue for orchestral concerts was the Capitol Theatre, originally designed as a cinema.

Its sale in 1966 and subsequent demolition precipitated the long-overdue building of the Perth Concert Hall, opened in 1973. A pipe organ was added in 1977, the second major concert organ built in Perth, following the installation of the organ in Winthrop Hall in 1964. This was a noteworthy period for the organ fraternity in the state, with the founding of the Organ Society of WA in 1966 and two Perth Organ Festivals held in 1971 and 1972.

Prior to the opening of the Concert Hall, the number of orchestral subscribers had dropped significantly, illustrating a continuing struggle to attract audiences for 'classical' music in the era of rock-and-roll, the transistor radio, and the explosion of the music record industry. In this changing environment, the Englishman David Measham (1937–2005) created a new profile for the WASO by incorporating light classical, film and 'pop' music into its programs. He conducted an immensely successful series of Promenade Concerts in the Entertainment Centre during the Festival of Perth (1975–87), as well as concerts of popular classics in a wide range of venues, including the recently constructed amphitheatre in Parkerville.

The long, dry, hot WA summers have always provided ideal conditions for open-air concerts. During and immediately after the Second World War, performances by the local orchestra were held in the Somerville Auditorium during the Adult Education Board's summer schools and the early years of the Festival of Perth. An acoustic shell was opened in Supreme Court Gardens in 1956 and was frequently used for musical and other purposes until destroyed by fire nearly forty years later. Improvements in amplification technology assisted the spread of outdoor concerts to many other venues; for example, Kings Park, amphitheatres in and around Perth, wineries, Perth Zoo, and Cottesloe Beach. Since 1985 an annual gala concert has been held at the Leeuwin Estate near Margaret River, becoming a highlight of the

social as well as musical calendar with famed international soloists backed by the WASO. A similar event in the north of the state is the Opera Under the Stars concert held since 1993 in Broome during the dry season.

Without a permanent resident opera company, productions of opera were limited until the formation in 1967 of the West Australian Opera Company, which has largely concentrated on grand opera. A smaller, semi-professional group, Opera Viva (1976–84), provided performances of intimate opera and musical drama, using exclusively local singers and including visits to music clubs and schools in its schedule. WA has produced a succession of outstanding singers, many of whom developed careers as stars of the Australian Opera. One of them, Gregory Yurisich, later established the Australian Opera Studio in Perth as a finishing school for promising young opera singers.

The establishment of a permanent opera company quickly demonstrated the need for a theatre orchestra in Perth, leading to the formation in 1972 of the WA Arts Orchestra, which played for opera, ballet, musical theatre, and choral groups, as well as providing a limited concert program. Several reviews of orchestral resources during the 1980s recommended that WASO and the Arts Orchestra be combined into a single orchestra large and professional enough to meet all the state's orchestral requirements. Their subsequent amalgamation in 1989 led to an enlarged WASO of ninety players, enabling it to expand its repertoire to include more frequent performances of large-scale nineteenth and twentieth-century works as well as playing for the opera and ballet seasons.

Apart from the Arts Orchestra, there had been earlier opportunities for young instrumentalists to be trained as orchestral players, dating back to 1944 when O. G. Campbell-Egan formed a State Schools' Orchestra, which later grew into the Perth Youth Orchestra. The Fremantle Youth Orchestra was active from about 1957 onwards. At UWA, the

University Training Orchestra was established by Graham Wood in the mid 1970s as a successor to the original University Orchestra. Its name later changed to the Western Australian Youth Orchestra (WAYO) as its membership grew to include other musicians besides university students, many of whom were also involved in the music camp movement. WAYO developed a number of associated instrumental ensembles, and the addition of a choral stream in 2005 led to the organisation becoming known as the Western Australian Youth Music Association.

For a long time chamber music appealed to only a small group of enthusiasts. Postwar European immigrants were among those who formed the Chamber Music Society in 1952. Visits to WA by leading chamber groups were rare, and this Society was important for creating an audience for such music, later built upon when Musica Viva extended its subscription series to Perth in 1974. Players from WASO and the teaching institutions formed groups such as the Oriel, Arensky, West Australian (later Stirling) String Quartets, and the Australian Piano Quartet, but although some of these groups gained a national profile with interstate tours, they rarely had a long life. The Emmanuel Ensemble, on the other hand, has been a consistent presenter of concerts of mainly late-eighteenth-century chamber music since its formation in 1988.

The number of church choirs declined dramatically in the latter part of the twentieth century, although the WA branch of the Royal Schools of Church Music was active in encouraging and promoting liturgical music. At the same time, concert choirs increased considerably in number and quality. For a time in the 1960s the UWA Choral Society's pre-eminence was challenged by the Bach Society Choir, which gave Perth its first complete performance of Bach's *St Matthew Passion*. Several other large choirs later emerged, including the Festival (later WASO) Chorus, Perth Oratorio Choir, and Collegium Symphonic Chorus. There was also a proliferation of smaller choirs, some attaining very high professional standards.

For most of Western Australia's history, musical composition was confined to a small circle whose work was virtually unknown to the majority of the musical public. The best-known composer during the 1950s and 1960s was James Penberthy (1917–1999), whose ballets, symphonies and opera *Dalgerie* were performed during his time in Perth. He was also prominent in the WA branch of the Fellowship of Australian Composers (formed 1965). More recently the most significant composer has been the English-born Roger Smalley, also a pianist and professor of composition at UWA. Like the most outstanding performers, however, young composers such as Jennifer Fowler, Carl Vine and Philip Bracanin often had to move overseas or interstate before making an impact.

During the 1980s there was an upsurge in the amount of contemporary and experimental music being offered to audiences, with groups such as Nova Ensemble and WASO's Twentieth Century (later New Music) Ensemble being formed exclusively for the performance of new music and to promote the work of local composers. In 1987, Evos Music (later Tura New Music) was founded and organised concerts and festivals of new music. Other groups, such as Magnetic Pig, explored the use of improvisation and electronics, expanding their activities to include the writing of incidental music for theatrical productions, in which the young composer Iain Grandage gained particular success. Having grown up in the pub and club culture, many younger musicians were adept at moving seamlessly between popular and classical music, with rock, jazz and ethnic influences easily absorbed into their compositions. In seeking to maintain their audience numbers, traditional concert-giving organisations have increasingly sought ways in which to appeal to the new generation, such as using rock musicians with orchestra in 'contempo' and winery concerts, or presenting small ensembles in venues such as bars and nightclubs.

Greater professionalism and the expansion of concert life during the second half of the twentieth century also occurred in the state's regional centres. While most of the main rural towns had their own community music-making, they were also serviced from Perth by such enterprises as the Adult Education Board's Everyman's Music concerts and WASO's country tours. In the latter 1970s the Western Australian Arts Council funded subscription concerts in larger towns such as Bunbury and Albany, and later regional arts or music organisations were established, some with resident music coordinators, the first being in Narrogin in 1984. New performing-arts centres, such as the one at Mandurah, provided the facilities for country segments of the Festival of Perth, which were introduced from 2000 onwards. **Jean Farrant and John A. Meyer**

See also: Aboriginal music; Australian Broadcasting Corporation; Band music; Bellringing; Choirs; Festival of Perth; Military bands; Music clubs and societies; Music Council of Western Australia; Music festivals; Music, schools; Music, tertiary education; Musical theatre; Opera; Opera, amateur; Orchestras, amateur; Popular music; Rock music, West Australian Symphony Orchestra

Further reading: J. Farrant, 'Playing in tune', in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); R. Jamieson, *What harmony is this? 75 years of the Music Teachers' Association in Western Australia* (1986); A. H. Kornweibel, *Apollo and the pioneers* (1973)

Music clubs and societies Music clubs had as their precursors the societies that enabled early settlers to maintain links with their Anglo-Celtic origins. From the 1890s onwards Caledonian Societies organised annual New Year concerts in Fremantle, Perth and the larger rural communities. St Patrick's Day concerts were arranged initially by Hibernian Societies and later by Catholic teaching sisters to raise funds for their schoolchildren's needs. The Cambrian Society was notable for its male choirs and eisteddfods, both on the goldfields at the turn of the twentieth century and in Perth until the Second World War.

The West Australian Society of Concert Artists was formed in 1917 to provide performance opportunities for local musicians, and to arrange fundraising concerts for advanced music students wanting to further their studies overseas. Similar aims, along with providing a social outlet for their members, marked the music clubs that were established in Perth's suburbs, such as the Wonkana Music Club (1939–68), Warana Music Club (1958), Musica Amica (1967) and Forrest Music Society (1977–2005).

Musical entertainment in rural districts was often dependent on local community support. However, the Avon Valley Arts Society (established in the early 1970s) is an example of a body attracting government funding through agencies such as Country Arts WA, which assists regional arts centres in taking music to even the remotest areas of the state.

The growth of Western Australia's population in recent decades has been paralleled by the spread of specialist musical clubs catering for a diverse range of interests. Just a few examples are the Theatre Organ Society (1982), Rock 'n' Roll Record Collectors' Club (1984), Recorder and Early Music Society of Western Australia (1984), Richard Wagner Society of Western Australia (1986) and the Lieder Society of WA (1990). **Jean Farrant and John A. Meyer**

See also: Music; Music Council of Western Australia

Further reading: J. Farrant, *Past, present and future: the history of the Royal Schools Music Club in Western Australia 1926–2006* (2006); C. Fyfe, *A backward glance: twenty years of the Richard Wagner Society of Western Australia (Inc.)* (2006)

Music Council of Western Australia The Music Council of Western Australia was formed in 1955 as a federation of community musical societies, mostly in the metropolitan area. Its main aims were to encourage and support the development of music in the state, and to speak with one voice on musical matters. The inaugural chairman was Frank Callaway, who had seen the benefit of similar bodies in his native New Zealand. As far as is known, the Council was unique to WA, no similar musical body being established in any of the other Australian states. Its influence waned following the establishment of the WA Arts Council (1973), and it was eventually disbanded in the 1980s.

The Music Council published a number of bulletins providing a record of musical activity in the state, and also Albert Kornweibel's history of music in WA during the nineteenth century, *Apollo and the Pioneers*. One of the Council's early achievements was to underwrite visits by international chamber music groups, which had tended to bypass Perth when touring Australia. In 1961 it established a Bursary Trust to assist a number of emerging musicians to pursue advanced studies overseas; among those helped in this way were Geoffrey Michaels, Brian Hanly (violinists), David Helfgott, Victor Sangiorgio (pianists), Glenys Fowles and Bruce Martin (singers). Discussions within the Council about the need for a community music library influenced the State Library to set up its Central Music Library, while the Council also lobbied strongly for the provision of a concert hall in Perth. **John A. Meyer**

See also: Music
Further reading: F. Bunning, 'The Music Council of Western Australia', in *Music in Western Australia: Review No. 4* (1972)

Music festivals, or eisteddfods, have commonly been the names given to competitions for young or emerging musicians, the most prominent being the Perth Music Festival, organised from 1924 by the WA Music Teachers' Association. Other competitive festivals have been those of North Perth and Fremantle, while similar events have been held in many country towns, among the earliest being the Northam Eisteddfod of 1913.

An early attempt at a music festival in the more generally understood sense was the Music Week held in November 1933, in which most of the musical organisations then existing in Perth participated. Hopes that the Music Week would become an annual event did not bear fruit as it was not well supported by the public.

The Festival of Perth, initially based at The University of Western Australia (UWA) in the summer months of February and March and using the Edinburgh Festival as its model, had a strong musical component from its beginnings in 1953. The WA Symphony Orchestra provided orchestral concerts in the open-air Somerville Auditorium, and from 1955 there were also ventures into opera and ballet. In the mid 1960s there were greatly expanded musical programs, often based on a special theme such as Bach (twelve concerts, 1965) or British music (eighteen concerts, 1966, including a visit from the London Symphony Orchestra).

Both the UWA Department of Music and the ABC (through the WA Symphony Orchestra) played important roles in developing the musical part of the Festival of Perth. One striking joint initiative was the regular series of Australian composers' workshops that were presented between 1968 and 1975. During the next two decades, a number of overseas orchestras and other musical ensembles were featured, and opera in the park (usually in Supreme Court Gardens) also became an annual event. In some years the music of a particular contemporary composer (such as Tippett, Pärt, Tavener, Glass) was featured, generally in that composer's presence. Towards the turn of the century an increase

in jazz, rock and world music programs meant a reduction in the number of classical music events, though still with some ambitious ventures such as an enhanced concert presentation of Wagner's *Die Götterdämmerung* in 2003.

Two outstanding Indian Ocean Arts Festivals were held in Perth in 1979 and 1984, and were organised by a committee which later constituted itself as the Indian Ocean Arts Association. While these festivals covered other performing arts, music and dance were by far the most prominent, with performers coming to Perth from most of the countries surrounding the Indian Ocean.

The York Winter Music Festival, founded by David Tunley, consisted of intimate concerts in historic homesteads, with the Town Hall being used for larger-scale performances. The first took place in June 1982, later becoming a biennial event with the last held in 1993. The annual Blackwood River Chamber Festival, a private venture by Vincent Moleta, started in 1997, with musicians and patrons travelling together by bus between venues in Bridgetown and surrounding districts.

Between 1998 and 2003 the Terrace Proms was held annually on a Sunday in October, with concurrent concerts in some of the magnificent foyers in buildings along St Georges Terrace in Perth.

In recent years contemporary music has been well served by several recurrent festivals, including the Hear Now! New Music Festival, organised by the UWA School of Music, and the Totally Huge New Music Festival. Additionally, there has been a proliferation of jazz, folk, blues and country music festivals in such locations as Fairbridge, York, Bridgetown, Boyup Brook and Fremantle. Since 1993 the Kiss My WAMi Festival has been held annually in Perth by the WA music Industry Association. **John A. Meyer**

See also: Festival of Perth; Indian Ocean region; Music; Rock music; West Australian Symphony Orchestra

Further reading: J. Birman, 'Festival of Perth', in *Studies in continuing education*, 3, 5 (1980) and 4, 6 (1981); T. Craig, *Cross currents in the Indian Ocean: a review of the Indian Oceans Arts Association and the Indian Ocean Cultural Council 1977–1997* (1997)

Music, schools Music in schools in Western Australia has gradually evolved to become an accepted subject in the school curriculum at the primary and secondary level. Music was offered by the Sisters of Mercy in their school for young ladies, opened at Victoria Square in 1849, with individual instrumental tuition being given for an additional fee, while the Sisters of St Joseph of the Apparition began a similar school in Fremantle in 1855 where the subjects taught also included music. Both these Catholic orders, as well as others in the coming decades, established schools throughout the colony, and children living in even the most isolated communities were given access to music facilities and private lessons in singing and various instruments at their local convent school.

Protestant denominations also opened schools in Perth, and those for girls, in particular, viewed music as an important part of their education. For all independent schools, prestige was sought by entering numerous candidates in music examinations administered from London. There was support as well for the Australian Music Examinations Board, and from 1915 until the late 1980s students from private and government schools could use results from their examinations to gain credit for music as a subject in the Junior and Leaving Certificates.

Classroom singing was introduced into state primary schools in 1892, but was seen essentially as a recreational activity, supplemented by folk dancing and singing during the school assembly. The place of music in government schools was enhanced by the appointment in 1929 of Owen George Campbell-Egan

(1890–1960) as the first Superintendent of Music. His textbook *Music in Schools* provided practical suggestions for teaching singing, while his collections of children's songs were also widely used. Annual music festivals featuring massed singing by primary school choirs began in 1930, and after 1933 these were organised by the State Schools' Music Society (later known as the WA Government Schools Music Society). Campbell-Egan also developed radio broadcasts, which provided an important musical resource for teachers.

During the 1940s there were also broadcasts by Catholic school choirs participating in their annual plainchant festivals, as the singing of Gregorian chant had become compulsory in all schools following the appointment of the Rev. Father Albert Lynch as Diocesan Director of Gregorian Music in Schools in 1937.

While in the first half of the twentieth century the provision of instrumental music in state schools was not widespread, because it depended on whether there were any teachers with the requisite expertise in a particular school, it became much more prevalent after the Second World War. There were percussion bands in the larger infant schools, and the use of tuned percussion instruments was advocated after the appointment of Edgar Nottage as Superintendent of Music in 1958. Recorders were also taught, and, from 1960 onwards, brass band tuition in schools became widespread. A music syllabus was developed to prepare students for the Junior and Leaving examinations. In 1968 an enhanced program for musically talented students was introduced into Perth Modern School, followed by Churchlands Senior High School in 1972. Peripatetic teachers employed by the Education Department provided group tuition in orchestral instruments, classical guitar, piano, and later the voice, and there were soon concert bands, orchestras and choirs in a number of schools.

There were significant advances at all levels of music education in the 1970s. The tertiary sector offered specialised qualifications in music education, which had a considerable impact through the provision of highly trained music teachers in schools. A music specialist could be nominated to be in charge of music throughout a primary school, using a syllabus influenced by the Kodály method and with support from regional music centres. In secondary schools music could be taken as a subject for the Tertiary Admissions (later Entrance) Examination, with assessment in general musicianship, literature of music and performance. During the 1980s curriculum courses were developed in secondary schools in accordance with recommendations in the Beazley report, while an alternative internally assessed course entitled Music in Society was introduced in 1995. Meanwhile, independent schools had begun building comprehensive performing arts facilities to accommodate the requirements of a music program, which in some cases provided sequential instruction from pre-primary right through to year twelve.

Today, the expertise of the large staff employed by the Department of Education's School of Instrumental Music (SIM) to service government schools reflects the diverse interests of students in jazz, classical and contemporary popular music. Each year a number of festivals coordinated by SIM are offered to both government and private schools. A wealth of music activities is available for schools, with a range of choirs, orchestras, bands and other ensembles, while school operas, operettas and musicals are often produced. The annual Performing Arts Festival for Catholic Schools and Colleges involves thousands of children each year in performances scheduled over a period of weeks, in a variety of venues. Musica Viva music education programs in schools can often give children a glimpse of the music of other cultures. **Jean Farrant**

See also: Choirs; Education, Catholic; Education, government secondary; Music, tertiary education

Further reading: G. Bartle, *Music in Australian schools* (1968); H. W. Dettman, *Music education in Western Australia: report of the Committee enquiring into Music Education in the government schools of Western Australia to the Director-General of Education* (1966)

Music, tertiary education Tertiary music studies in Western Australia immediately after the Second World War consisted of electives in teacher training or Bachelor of Arts courses until 1959, when a Department of Music was established at The University of Western Australia (UWA) with the appointment of Foundation Professor Frank Callaway and Lecturer in Music David Tunley. The department offered a Bachelor of Arts as a general humanities degree, or a Bachelor of Music for more specialist music studies. This music degree broadened in 1970 to include performance, music education, and musicology, reflecting the approach of the department, which aimed to present music on a wide front, both as part of a liberal arts education and as a specialist study in the creative, scholarly or performing arts.

This philosophy was, and continues to be, reflected in the courses and in the musical activities of the department (now school). Choirs, orchestras and ensembles, both western and non-western, have involved students and community members in exploring diverse musical repertoire under the direction of staff of the school. The purchase in 1991 of a set of early music instruments, and an ongoing emphasis upon workshopping of new student compositions through contemporary music ensembles, have continued to broaden the range of music to which students and their audiences have been exposed.

These programs have been assisted by the establishment in 1973 of the UWA Artist-in Residence program, which provides for eminent performers to visit Perth, thereby diminishing the potential isolation of Western Australians from mainstream developments overseas.

Likewise, the establishment of the journal *Studies in Music* contributed internationally to discussions on musicology by academics, both Australian and international.

The performance work in early music has also been an important manifestation of the university's general emphasis upon a teaching–research nexus, reflecting the School of Music's strong reputation in the area of Baroque studies, a reputation established through the research work of David Tunley.

During the 1970s there was much debate in WA about the need to cater more effectively for the training requirements of music teachers, particularly those without the necessary matriculant status to attend UWA. In 1980 the WA Academy of Performing Arts (WAAPA) was established at the Mt Lawley College of Advanced Education, incorporating a Department of Music that provided for music teacher accreditation through the Diploma in Music Teaching. In 1984, after a public review process, the state government accepted a recommendation to establish the WA Conservatorium of Music to replace this department.

In 1985 the Conservatorium opened, with Richard Gill as its first dean, and quickly made its mark through selective appointment of high-level performers, a strong jazz program, and a strong program of choral and vocal music. At one point, both the WA String Quartet and the Vasse Quintet were ensembles in residence at the Conservatorium. Gill also initiated student involvement in WAAPA's annual series of productions of opera, choral music, and music theatre. The WA Youth Jazz Orchestra, today part-sponsored by Edith Cowan University, was formed in 1982.

Initially the Conservatorium offered award, rather than degree, courses. Later, the introduction of a Bachelor of Music degree and a stronger emphasis upon training a small, select group of student performers saw a gradual convergence between the courses at WAAPA and those at UWA. This trend accelerated when the WA Colleges of Advanced

Education were brought together as campuses of Edith Cowan University in 1991, with a resulting push towards a more academic profile for staff at WAAPA and the establishment of postgraduate degrees in music.

The convergence of WAAPA and UWA led to a level of competition for students that many saw as dysfunctional in a relatively small marketplace. In 1997 the state Minister of Education convened a review to resolve the issue, resulting in greater collaboration in shared ensemble work, although a more formalised relationship through a proposed new WA Institute of Music did not develop as originally envisaged.

In 2003 WAAPA was redesignated a School within the Faculty of Communications and Creative Industries at Edith Cowan University, signalling a growing interest in staff and students playing a role in the development of the creative industries in Western Australia, while at UWA the appointment of a new Chair in Music, and the acquisition of the Handa Collection of Australian Music, signalled a new era of research and community engagement with the music of Australia's past and present. **Margaret Seares**

See also: Choirs; Edith Cowan University; Music; Music, schools; WA Academy of Performing Arts

Further reading: G. Bolton and G. Byrne, *The campus that never stood still: Edith Cowan University, 1902–2002* (2001); B. K. de Garis (ed.), *Campus in the Community: the University of Western Australia, 1963–1987* (1988); R. Jamieson, *What harmony is this? 75 years of the Music Teachers' Association in Western Australia* (1986); J. Meyer (ed.), *Touches of sweet harmony: music in the University of Western Australia* (1999)

Musical theatre Between 14 May and 18 June 1898 the J. C. Williamson–George Musgrove Royal Comic Opera Company gave thirty performances at the Theatre Royal (opened 1897) of six musical comedies not seen in Perth before. So began Perth's continuing love affair with musical theatre, as professional entertainment and as amateur recreation. As well as the 1,200-seat Royal, the better-equipped 2,500-seat His Majesty's Theatre (1904), and the 1,200-seat King's Theatre (1904) in Fremantle also served as venues. They were not the first, nor the only venues for musical theatre, either imported or locally produced. The St Georges Music Hall (opened 1879, seating 500–600) had previously been the best venue for the 'respectable classes' but was eclipsed by the competition.

J. C. Williamson Ltd (JCW) was the leading promoter until 1976, and usually held the performing rights for what others presented. George Stephenson's English Musical Comedy Company, for example, played a four-week season at His Majesty's, opening with Howard Talbot's *A Chinese Honeymoon* on 28 August 1905. Oriental extravaganzas were particularly popular. Oscar Asche brought *Kismet* to Perth in July 1913 and followed up with *Cairo* and *Chu Chin Chow* in March 1923.

The WA Concert Artists' Society (Inc.) was an amateur organisation formed in 1918 under the musical directorship of Mr E. L. Jacoby. The society gave six performances of *The Mikado* at His Majesty's in April 1919, followed by two performances at the King's. It had a chorus of sixty voices and a professional orchestra. The society played a crucial role in the musical life of Perth. It recessed during the Second World War but revived in 1948 with Cyril Riley's production of *Rio Rita*, starring June Percival, Des Banwell and Renee Esler. Its last production was *The Student Prince* in 1952.

Outside the city limits musical theatre has been particularly vigorous in Kalgoorlie, Esperance, Albany, Bunbury and Geraldton—where the colony's first Gilbert and Sullivan was staged, *Trial by Jury* in 1887.

Until the Second World War, by which time His Majesty's Theatre's seating was reduced to 1,500, Perth audiences often saw

Australian productions of new work soon after the London or New York premieres. After the war, a succession of Broadway musicals crossed the Nullarbor—*Annie Get Your Gun* (1950), *Kiss Me Kate* (1953), *Funny Girl* (1967), *Man of La Mancha* (1971) and *Hair* (1972) among them.

J. C. Williamson's Gilbert and Sullivan Opera Company brought to Perth stars of London's Savoy Theatre—Ivan Menzies, Bernard Manning, Evelyn Gardiner, Gregory Stroud—and they appeared memorably at His Majesty's in 1933 and 1941. When Manning returned to Perth in 1951 he established the Gilbert and Sullivan Society of Western Australia and was its driving force until he died in 1961. Between the society's inaugural season at the Assembly Hall in 1953 and its 1990 season at His Majesty's—*HMS Pinafore* on both occasions—it presented at least one major production a year, mostly directed for the last twenty-five years by John Milson. Many performers went on to professional careers, especially on the operatic stage, among them Glenys Fowles, Gregory Yurisich, Emma Lysons and Sara Macliver. The society provided employment for directors, conductors, choreographers, set, costume and lighting designers.

The musical-theatre star of Western Australia is undoubtedly Jill Perryman. Her performance as Fanny Brice in *Funny Girl* (1967) put paid to the notion that to be a commercial success, musical theatre needed an imported star. The highlight of her career was the revival of *Hello Dolly!* in 1995. More recently, Hugh Jackman, trained at Western Australian Academy of Performing Arts (WAAPA), has sprung to international attention with memorable performances as Curly in a West End production of *Oklahoma!* and on Broadway as Peter Allen in *The Boy from Oz*.

The Musical Theatre Company of WA staged five 'pro-am' productions between 1994 and 1998 in association with the Perth Theatre Trust. Until it folded it was an outlet for the considerable talent graduating from the Musical Theatre course at WAAPA.

The privately owned His Majesty's Theatre was the main venue for musical theatre for more than sixty years, with the Edgley family leading the way as entrepreneurs, producers and performers. The Perth Entertainment Centre opened in 1971 and hosted a number of Michael Edgley International musical extravaganzas until it closed in 2002.

Suburban repertory clubs and musical comedy groups produce musical theatre for loyal audiences, and these are both strongly supported and usually of a high standard.

The 2,500-seat Burswood Theatre (1987) and the recently renovated Regal Theatre are viable venues for the big shows, including *The Boy from Oz* (2000), *Singin' in the Rain* (2002), *Cabaret* and *Mamma Mia!* (2003), *We Will Rock You* (2004), *Saturday Night Fever* (2005), and *Dusty* (2006). **David Hough**

See also: Dance, performance; Entrepreneurs, theatrical; Music; Opera; Theatre and drama; Theatres, buildings; WA Academy of Performing Arts
Further reading: J. Cargher, *Opera and ballet in Australia* (1977); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004); P. Parsons (ed.), with V. Chance, *Companion to theatre in Australia* (1995); J. Whiteoak and A. Scott-Maxwell (eds), *Currency companion to music and dance in Australia* (2003)

Muslims Contact between Muslims and Western Australia pre-dates European settlement, when fishermen from Macassar regularly visited northern shores to collect trepang and trochus from at least the early 1700s. Muslims formally arrived in the area in the second half of the nineteenth century. By 1875 the pearling industry in the North-West had recruited about 1,800 Malay Muslim divers. Early in the twentieth century, Broome had a relatively large and predominantly male

Malay population, which introduced Malay culture and cuisine and also built a mosque in the town during the 1930s. Meanwhile, the 1890s mining boom drew Afghan cameleers from the eastern colonies, either overland across the desert, or via Fremantle port. There were 427 Muslims (referred to as Mahomedans) enumerated in the 1891 census, and this rose to 1,191 (0.66 per cent of the total population) in 1901. By 1897 more than five hundred Afghans were on the goldfields. They established 'Ghan' towns near Coolgardie, Laverton, Leonora, Mount Morgan, Bummer Creek, Port Hedland, Marble Bar and Cue. By 1905 they had raised funds to build the first mosque in Perth at the corner of William and Robinson streets.

Because Afghan Muslims were initially denied permission to bring their wives, many married European women at the periphery of the system. Others cohabited with local Aboriginal women as Western Australian law prohibited marriage between Asians and Aborigines. Their children comprised the first generation of Western Australia-born Muslims.

In the 1920s, Albanian Muslims arrived in the state in the aftermath of the First World War. Some were employed in timber plantations. After the end of the Second World War, more Muslim immigrants began to arrive from Europe, especially from the former Yugoslavia, Turkey, the Middle East and South-East Asia. The 1971 census recorded only 535 Muslims living in the state but these numbers increased fivefold to 2,723 by 1985. Many of these migrated to WA from the Cocos (Keeling) and Christmas Islands where there is a large Muslim population. Some from the Christmas and Cocos Islands were employed in the Katanning Abattoir (set up in 1972), where meat was slaughtered for export to Islamic countries. During the next two decades, political instability in the Indian Ocean region, particularly in Lebanon, Afghanistan, Iraq, Iran and Kuwait, resulted in the continuous migration of Muslims into WA. Census figures show that 24,185 Muslims lived in WA in 2006, 1.23 per cent of the total population. Approximately one-third of these are Australia-born. Of these, 75 per cent speak the English language very well, and 34 per cent of these have a weekly income between $120 and $299.

While communities of Muslims are concentrated in a number of towns and cities, including Port Hedland, Goldsworthy, Geraldton, Kalgoorlie-Boulder, Katanning, Busselton and Harvey, the largest concentration is in the Perth metropolitan region. There are at least nine mosques in the state, four Islamic schools and a number of outlets providing halal food. **Samina Yasmeen**

See also: Asian immigrants; Indian Ocean Territories; Middle Eastern immigrants; Spirituality and religion
Further reading: M. L. Jones (ed.), *An Australian pilgrimage: Muslims in Australia from the seventeenth century to the present* (1993); P. Rajkowski, *Linden girl: a story of outlawed lives* (1995)

My Place, by Sally Morgan, was first published by Fremantle Arts Centre Press in 1987. An immediate bestseller, it has been reprinted many times and translated into several foreign languages. It has become an 'Australian classic' with over half a million copies sold in Australia.

My Place is an account of Morgan's journey to recover her Aboriginal identity through seeking out her maternal family history. The stories of her mother, Gladys Milroy (née Corunna), grandmother Daisy Corunna and grandmother's brother, Arthur Corunna, direct her search for 'her place'. Ironically, this is located on Corunna Downs, the Pilbara station of the Drake-Brockman family, whose history is entangled with that of the Corunnas.

My Place has had a major impact on non-Aboriginal understandings of colonisation in

Western Australia and its effects, including the abuses Aboriginal people often suffered at the hands of the pastoral industry. In the book, when Mum says to Nan, 'There's been nothing written about people like us, all the history's about the white man', she identifies the ways Aboriginal stories and history have been silenced. She also alludes to the political significance of recent black writing in Australia, in which *My Place* was influential.
Delys Bird

See also: Aboriginal culture and society; Aboriginal oral history; Aboriginal writing; Book publishing
Further reading: D. Bird and D. Haskell (eds), *Whose place? A Study of Sally Morgan's* My Place (1992); S. Morgan, *My Place* (1987)

Mycology is the study of fungi, including their classification, ecological roles, and applications in medicine, food and industrial biotechnologies. It is known that some Aboriginal people in Western Australia used fungi as food, medicines and cosmetics, but information is scant. Mycology has received less attention than botany in Australia, mainly due to the cryptic nature of fungi. There are likely to be many times more fungi than plant species in Australia. Many of the fungi are poorly recorded or yet to be documented. The last census of WA macrofungi (Hilton, 1982, 1988) lists only 504 species and varieties. A comprehensive account of mainly microscopic fungi known to cause diseases of plants in WA lists 675 fungi (Shivas, 1989). Fungi in southern WA have been studied more than northern WA fungi.

Substantial knowledge about fungi in WA affecting agriculture and human health, particularly microscopic pathogens (disease-causing fungi), has been contributed by a large number of people, including: F. Stoward, appointed Botanist and Vegetable Pathologist in the Department of Agriculture WA, 1911, followed by D. A. Herbert, 1918–21; W. M Carne, who established the teaching of plant pathology at The University of Western Australia (UWA) in 1923; H. A. J. Pittman, appointed Plant Pathologist in the Department of Agriculture WA, 1928, followed by W. P. Cass Smith, and then H. L. Harvey. Among the many people who contributed accounts during the twentieth century on mainly microscopic fungi causing plant diseases or fungi associated with WA plants are: L. K. Abbott, S. C. Chambers, E. M. Davison, B. Dell, R. F. Doepel, O. M. Goss, G. E. StJ. Hardy, G. C. MacNish, B. L. Shearer, R. G. Shivas, K. Sivasithamparam, N. Tamblyn, and I. C. Tommerup. Staff such as R. McAleer at the State Health Laboratories undertook many studies on fungi affecting human health. A herbarium of mainly plant pathogenic fungi at the Department of Agriculture WA was transferred in 1985 to the WA Herbarium, Kensington (Department of Conservation and Land Management to mid 2006, then the Department of Environment and Conservation), under the guidance of R. G. Shivas.

Aside from plant pathogenic and medical fungi, the so-called macrofungi have received the greatest attention. These include mushrooms, toadstools, puffballs, and other large fungi. During the nineteenth century the pioneer collectors of fungi in WA mainly sent their specimens to Europe for study, such as those described by the Rev. M. J. Berkeley in Britain. Notable collectors were J. Drummond, who collected mainly 1843–63: J. A. L. Preiss, 1839–41: and F. von Mueller around 1877. After this period few collections of macrofungi were recorded in WA until the 1930s, perhaps due to the overwhelming demand for documenting Western Australia's outstanding plant flora. Since then collections have been made by residents such as T. E. H. Aplin, T. C. Daniell, J. Gentilli, K. Griffiths, K. F. Kenneally, M. B. Mills, R. M. Robinson, and K. Syme. During the latter half of the twentieth century into the first decade of the twenty-first century, overseas mycologists

such as R. Agerer, M. A. Castellano, E. Horak, P. B. Matheny, O. K. Miller Jr, D. A. Reid, J. M. Trappe, and R. Watling made visits to WA and were sent specimens for study. During this period many novel species of WA macrofungi were described by those mycologists, as well as by D. N. Pegler from Kew in Britain, and by numerous resident Australians including G. Beaton, N. L. Bougher, R. N. Hilton, T. Lebel, N. Malajczuk, N. E. M. Walters, and A. M. Young.

E. R. L. Johnson and then R. N. Hilton at UWA's Botany Department conducted mycology courses until Hilton's retirement in 1987. Specimens from this period were mostly lodged in the UWA Botany Department until 1988, when the collection was transferred to the WA Herbarium. More recent studies on WA macrofungi have focused on mycorrhizal fungi (beneficial partners of plants) and using fungi in management and restoration of bushlands. The CSIRO Mycology Herbarium, Floreat, established in the early 1980s, was built upon such studies. In 2004 it also was transferred to the WA Herbarium, where about 22,000 fungi specimens are currently housed (including about 2,500 annexed at Manjimup).

It is likely that many WA fungi remain undiscovered or unnamed. Recently, increasing awareness of fungi has stimulated some major new initiatives, such as the community-based Perth Urban Bushland Fungi project. **Neale L. Bougher**

See also: Collections, plant; Environment; Vegetation

Further Reading: N. L. Bougher and K. Syme, *Fungi of southern Australia* (1997); B. J. Grieve, 'Botany in Western Australia: a survey of progress, 1900–1971', *Journal of the Royal Society of Western Australia*, 58 (1975); B. J. Grieve, 'A census of the larger fungi of Western Australia', *Journal of the Royal Society of Western Australia*, 65 (1982); B. J. Grieve, 'A census of the larger fungi of Western Australia Part 2', *Journal of the Royal Society of Western Australia*, 70 (1988); A. C. Kalotas, 'Aboriginal knowledge and use of fungi', *Fungi of Australia*, 1B (1996); T. W. May and I. G. Pascoe, 'History of the taxonomic study of fungi', *Fungi of Australia*, 1A (1996); R. G. Shivas, 'Fungal and bacterial diseases of plants in Western Australia', *Journal of the Royal Society of Western Australia*, 72 (1989)

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National Fitness Council The national fitness movement was formed in Australia in a 1930s climate of concern over the health and fitness of the population. At Commonwealth and state government levels attention focused on physical training for youth. This was precipitated by the passing of the UK government's *Physical Training and Recreation Act* in 1937 and hastened by the federal government's concern over the need for a fit population at the outset of the war in Europe.

Following the lead of the Commonwealth government in the formation on 1 December 1938 of a National Coordinating Council for Physical Fitness, renamed shortly thereafter the Commonwealth Council for National Fitness (which preceded the passing of appropriate legislation in 1941), the National Fitness Council of WA (NFCWA) was formed as an incorporated body in 1939. The WA *National Fitness Act* was eventually passed in 1945 with ministerial responsibility allocated to the minister for education. State government funding was allocated annually to the NFCWA, the forerunner to today's Department of Sport and Recreation.

From the outset, emphasis was placed on health and individual fitness. The objectives defined at the NFCWA's first meeting reflected the interests of its national counterpart. Community education in the intrinsic value of physical fitness, but with a focus on youth aged between 14 and 21, was a core value.

The first NFCWA offices were opened in mid April 1940 at the Padbury Building in Forrest Place. Shortly thereafter, seventy-two National Fitness Centres were established throughout the state, fitness training was introduced in Police Boys Clubs and a State Board of Studies in Physical Education was formed to replace the existing Physical Training committee.

By the end of the 1940s, after several restructures and changes in staff and members, the NFCWA was well established under the education portfolio and had formed a number of sub-committees covering grants, youth, sport, playgrounds and camps, through which it drove its fitness agenda. Sports organisations particularly were a prime source for the promotion of fitness.

Over the following twenty years, the NFCWA continued its work from several locations, finally being based at Perry Lakes Stadium following the 1962 Empire and Commonwealth Games. By 1972 the fitness, youth and recreation movement was an integral part of the life of the WA community

The WA *Youth, Community Recreation and National Fitness Act* passed in September 1972 repealed the previous *National Fitness Acts* (1945 and 1959) and the *Youth Service Act* (1964) This resulted in the formation of the WA Community Recreation Council (CRC) in 1964 under a recreation portfolio with the Hon. T. D. Evans as the first minister for recreation. The creation of this portfolio was also an Australian first, resulting in the severing of major links with education and demonstrating a significant shift in government attitude towards the role of recreation and sport.

In 1978 the *Youth, Sport and Recreation Act* repealed the 1972 Act and established formal ministerial responsibility for the state's recreation service. Thus was formed the WA

government Department for Youth, Sport and Recreation, another pioneering move in the field of recreation and sport, preceding by several years the federal government's move to formalise such a portfolio.

In the lead-up to the formation of the new department the Associated Sporting Committee (ASC) of the NFCWA, formed in 1950 to promote the fitness agenda through sport, became more concerned with pursuing the development of sport through advocacy to government. This shift led to the ASC eventually becoming independent of government in 1976, with a name change to the Western Australian Sports Federation (WASF) and a new constitution, prior to the cessation of the CRC. While the WASF thereby lost some capacity for direct communication with —and control by—the state government, it gained greater independence to advocate for all sport. **Bob Welch**

See also: Public health; Sports system
Further reading: R. K. Gray, *The first forty years: The National Fitness and Community Recreation Councils of WA, 1939–1978*, (1982)

National Parks Under the IUCN (World Conservation Union) definition, a National Park is a large area of land set aside in perpetuity to conserve its natural values (biodiversity, geology, landscapes). For this review, national parks include all the components of the formal terrestrial conservation reserve system: national parks, nature reserves, conservation parks and other specific reserve types.

In 1872, the same year as the first National Parks were established in the USA (Yellowstone) and in Australia (Royal National Park on the outskirts of Sydney), a strong local interest in natural history and conservation led to the creation of Western Australia's best known conservation reserve, Perth Park (now Kings Park) for Public Park and Recreation. The proposal was initiated by

Sir Frederick Weld, Governor of WA. From that beginning, Western Australia's conservation estate has grown, and now includes over 1,500 National Parks, nature reserves, conservation parks and other reserves covering almost 17.5 million hectares, 6.9 per cent of the state's land area. It also incorporates twelve marine parks, marine nature reserves and marine management areas with an area of 1.5 million hectares (30 June 2006 data).

The early momentum for conservation was maintained through a number of societies and clubs, with strong support from Sir John Forrest, premier; Bernard Woodward, director of the WA Museum; Baron Ferdinand von Mueller, Victorian government botanist and Sir William Robinson, governor of WA. At their instigation, a reserve of 64,000 ha for Flora and Fauna was created at South Dandalup in 1894; however, this was later incorporated into State Forest. In the ensuing years into the 1940s, reserves were created to protect caves, spectacular stands of karri forest, areas around Nornalup, and the flora and fauna of Barrow Island. These were managed by local boards or the State Gardens Board which, in 1956, became the National Parks Board. The Fauna Protection Advisory Committee was established in 1950 to accept responsibility for flora and/or fauna reserves. These two decisions signalled recognition within government of the importance of parks and reserves for tourism, the need to protect areas for conservation, and the need to commit resources to management of these areas for tourism and/or conservation. They provided the impetus for the creation of new parks and reserves so that, by 1960, there were eleven National Parks and thirty-six reserves.

A landmark report in 1962 by the Western Australian Sub-committee of the Australian Academy of Science Committee on National Parks and Nature Reserves further legitimised the view that there should be a system of reserves representing all natural ecosystems and scenic types, and recommended additional reserves. The Committee's recommendations

resulted in growth of the conservation estate to 6.5 million hectares by 1972.

In 1972, the Environmental Protection Authority initiated a comprehensive review of the conservation reserve system throughout the State. Implementation of the recommendations of the EPA's Conservation through Reserves Committee review saw the conservation estate grow from 555 National Parks and nature reserves totalling 7,374,739 hectares in mid-1975 to 1194 parks and reserves totalling 14,330,000 hectares in 1985.

The program of systematic and comprehensive regional biogeographic surveys initiated in the mid-1970s generated the knowledge base and the theoretical understandings required to design and establish the conservation reserve system. This program continues today.

In the mid 1970s the Commonwealth government began to take an interest in the conservation estate and gradually the National Reserve System Program evolved. From 1997 to 2004, this program provided around $6 million for land purchase, primarily for pastoral lands in the Gascoyne–Murchison region. The Program was also catalytic in the formulation of the Interim Biogeographic Regionalisation for Australia, the conservation planning framework now used to guide many conservation activities. **Angas Hopkins**

See also: Caves (tourism); Conservation and environmentalism; Heritage; Marine environment

Further readings: A. J. M. Hopkins, J. Coker, F. R. Beeston, P. Bowen and J. M. Harvey, *Conservation status of vegetation types throughout Western Australia: Final report: Australian Nature Conservation Agency, National Reserves Systems Co-operative Program project no. N703* (1996); G. E. Rundle, 'History of conservation reserves in the south-west of Western Australia', *Journal of the Royal Society of Western Australia*, 79 (1996)

National Trust of Australia (WA) The National Trust of Australia (WA) was established as an incorporated body in September 1959. At its core were a number of leading citizens concerned to raise the public profile of heritage at a time of extensive change to the built and natural environments. They were Ian Birtwistle, Marshall Clifton, Shirley de la Hunty, Margaret Feilman, Hugh Guthrie, V.M. Knowles, Ian Medcalf (later WA Attorney General), Mollie Lukis, George Seddon, Vincent Serventy, Ali (F.A.) Sharr, Charles Staples, and John and Ray Oldham. Early office bearers included Sir Ross McDonald, former Liberal–Country Party Premier Sir Ross McLarty, industrialist Lance Brisbane, Ernest Lee Steere (later Lord Mayor) and the Hon Justice Lawrence Jackson (later Chief Justice) all of whom had considerable status in the community. In 1964 the Trust became a statutory body under its own Act of Parliament. Like its counterparts in other parts of Australia and the world, the NTA (WA) seeks to promote a heritage ethic by identifying, conserving and interpreting places of heritage significance in both the built and the natural environments.

In its early days these aims were mainly achieved by an extensive educational program through public lectures, tours of heritage properties and natural heritage landscapes. Members were also involved on a volunteer basis in committees, which undertook heritage surveys and developed a register of heritage places. In later years, this work was augmented by the addition of a number of heritage properties which were opened to the general public as well as members and by an active advocacy role at local, state and federal government levels. The first property that the Trust acquired was Old Strawberry Farm in Albany. In 2007, nearly fifty years later, the Trust had acquired responsibility for 79 properties throughout the state; 67 were owned by the Trust and 12 were vested in the Trust. Over the years, the focus of the Trust's attention has grown beyond

the early attention to colonial heritage and encompassed twentieth-century landscapes including industrial, rural, natural and urban heritage sites. The increasing importance of social history has also manifested itself with attention beginning to be paid to migrant and labour heritage. Indigenous heritage has been a small but constant theme in the Trust's work.

The National Trust continues to be a membership-based association, with no legal jurisdiction over places listed in its heritage register. It does, however, have the power to enter into covenants with heritage property owners in order to safeguard their continued existence. While some of its work continues to be done by volunteers, the Trust has gone through a period of professionalisation, particularly under the current Chief Executive Officer Tom Perrigo. The Trust has appointed paid staff in the areas of collection and property management, interpretation of heritage sites, covenanting and the broader management of the Trust itself. As the leading independent heritage body the Trust plays a key role in promoting the importance of heritage in Western Australia. **Andrea Witcomb**

See also: Built heritage; Heritage

Native police The native police of the early colonial period in Western Australia were a specialised mounted police force created in 1839 by Governor Hutt, after complaints from settlers following the death of a settler and a child in the area of most conflict, the York district. The force was commanded by Inspector John Nicol Drummond and consisted of three European men with Aboriginal assistants who were experts in tracking. They were initially intended to deal with escalating conflict between settlers and local Aboriginal groups, the Nyoongar people.

Australian native police forces are often associated with unrecorded killings or 'dispersals' against Aboriginal populations, for example, in actions by the paramilitary NSW and Queensland native police corps on colonial frontiers. The WA models were officially and practically different. The native police (or mounted police with native constables, as they were also known) were different from the civil police force (which may also have utilised Aboriginal trackers). The formation of the WA native police force was intended as a temporary measure to counter growing Nyoongar attacks on property and for the protection of settlers. They were also responsible for preventing intra-Nyoongar fights, prosecuting settlers for abuse of their Nyoongar employees or servants and for preventing the settlers from taking the law into their own hands. Admiral C. H. Fremantle had earlier described this practice as almost a 'war of extermination' as settlers often shot Nyoongar people. By 1853 this force disbanded and was amalgamated into the civil force.

The use of Aboriginal police continued in the WA police force and the Aboriginal police were called 'native assistants' (formalised in Section 38A of the WA *Police Act 1892*). They were armed and attached to individual police officers and stations and were particularly effective in assisting police with tracking and even surviving in harsh and large areas. They became especially notable in the Kimberley district in the 1890s, where Aboriginal resistance was threatening European settlement.

In the late nineteenth century there were several attempts by WA colonists to establish a native police force in the Kimberley along the lines of the Queensland model, though they were never endorsed by the government of the day. However, in times of conflict, police would occasionally send their armed assistants out to do police work where their actions were often hidden from authorities. In this regard Gill has argued that the actions of these armed police were not dissimilar from the native police of the eastern colonies. They did differ in one important respect, however, in that they took prisoners.

During the twentieth century the status of Aboriginal police improved and they played an important role in mediating between the regular police and Aboriginal communities all over WA. By 1975 Aboriginal police assistants became known as police aides. **Chris Owen**

See also: Aboriginal resistance, South-West; Aboriginal trackers; Frontier violence, Kimberley; Police and policing

Further reading: M. Bentley, *Grandfather was a policeman: The Western Australian Police Force 1829–1889* (1993); A. Gill, 'Aborigines, Settlers and Police in the Kimberleys 1887–1905', *Studies in WA History*, 1 (1977); C. Owen, '"The police appear to be a useless lot up there": law and order in the East Kimberley 1884–1905', *Aboriginal History*, 27 (2003)

Native title is a formal acknowledgement in common law that Indigenous people in Australia have rights to land and water. Native title may be determined to exist in areas such as vacant Crown land, some national parks, forests and public reserves, some pastoral leases, some land held for Aboriginal communities, beaches, oceans, seas, reefs, lakes, rivers, creeks, swamps and other waters that are not privately owned. Native title has been recognised by European scholars since the fifteenth century and given effect in other common-law countries such as the United States, Canada and New Zealand.

The Commonwealth of Australia passed the *Native Title Act 1993* in response to the Australian High Court's decision on Mabo No. 2 (1992) in relation to the island of Mer, off the Queensland coast. In 1995 the Western Australian state government tested the validity of the *Native Title Act 1993* in relation to mainland Australia with legislation relating to 'traditional usage'. The High Court subsequently found that native title could exist in mainland Australia, that it could only be extinguished in a manner that was consistent

with the *Racial Discrimination Act 1975*, and that the Western Australian legislation was inoperative. In 1997 the Howard Coalition government amended the Commonwealth's *Native Title Act 1993* in response to the High Court's decision on Wik (1996), which found that native title could co-exist with pastoral leases.

The *Native Title Amendment Act 1998* has since come to represent a complicated, expensive and frustrating process, through which Aboriginal people must apply to the Federal Court of Australia for a determination of native title rights, referred to as a 'bundle of rights'. These cases may be consented to, litigated against or determined unopposed. Indigenous applicants must prove that they have maintained a connection to land through culture and that other forms of land-use have not extinguished their native title rights since colonisation. A determination of native title states whether or not native title exists and, if native title does exist, who holds it and the content of their native title rights and interests. It also recognises the non-native title rights and interests of the area and sets out the basic grounds for the co-existence of the two sets of rights. There can be no native title rights to minerals, gas or petroleum recognised under Australian law. In tidal and sea areas, only non-exclusive native title can be recognised.

Successful native title determinations in Western Australia include the Spinifex People (Great Victoria Desert, 2000), Rubibi (near Broome, 2001), Kiwirrkurra People (2001), Martu and Ngurrara (Pilbara, 2002) and the Karajarri People (Kimberley, 2002). The Miriuwung-Gajerrong claim was finally successful in 2005, after a string of appeals since 1998. In 2007 the *Nyoongar* (2006) determination was appealed by the state government. **Aileen Marwung Walsh and Hannah McGlade**

See also: Aboriginal Land Councils; Aboriginal legislation; Kimberley Land Council

Further reading: C. Choo and S. Hollbach (eds), *History and Native Title: Studies in WA history* (2003)

Navy Naval defence was considered from the earliest days of settlement, but, unlike other colonies, Western Australia did not develop its own navy. The British government's 1865 *Colonial Naval Defence Act* empowered self-governing colonies to exercise such rights, but Western Australia did not achieve this status until 1890.

The Fremantle Naval Artillery, a militia unit, was formed in 1879 and was armed with two veteran canons mounted on wooden carriages, without limbers or ammunition. Unable to move or fire the guns, the force's effectiveness was somewhat questionable. In 1888 the unit was converted into field artillery.

Although responsibility for naval defence passed to the Commonwealth in 1901, nothing occurred in WA until 1910, when a volunteer force was established. The Royal Australian Navy was established in July 1911, and many more men joined the Reserves. The first District Naval Officer and his staff were appointed and training facilities were established in various buildings at Fremantle, including the old Customs House and also the old Post Office, while four cutters were housed in a boatshed at the fish-market jetty.

Legislation to establish a modern Australian navy was introduced in 1910, and a report commissioned which recommended building a naval base at Cockburn Sound to accommodate 26 vessels and 7,500 men. The federal government resumed Garden Island and a 20-square-kilometre strip of land along the coast. Planning commenced and it was estimated that it would take fifteen years and cost £7,000,000 to complete the massive project.

Dredging work and construction of two breakwaters began, while wharves, basins and a floating dock were to follow. Barracks, recreation grounds, a hospital, torpedo and gunnery schools and a boys' training establishment were constructed on Woodman Point, and ammunition and fuel depots nearby. Known as Henderson Naval Base, the complex was opened by the Commonwealth Minister for Defence in 1913.

At the outbreak of the First World War an obsolete cruiser arrived to patrol the west coast, but left after five months. By then almost the entire Australian fleet was serving overseas. Ironically, coastal protection was undertaken by the Japanese Navy, which provided the state with a naval presence for the remainder of the war.

After the war, the Commonwealth government commissioned another report on Australia's naval defences. The earlier recommendations were supported, but due to austerity measures the Naval Board discontinued work on the naval base in 1921. Between 1911 and 1939, only £1,119,203 was spent on capital works for naval defence in Western Australia, 99 per cent of that figure on the abandoned base.

At the beginning of the Second World War, HMAS *Leeuwin* at Fremantle and several other establishments were constructed and many other buildings leased, in order to cope with the rapid expansion of naval operations off Western Australia. Fremantle Harbour was developed as an Allied submarine base to become the second largest in the world, and Australian warships were based at Fremantle to provide minesweeping and limited escort services.

The navy's presence declined after the war, and although HMAS *Stirling*, on Garden Island, was commissioned in 1978, it was not until the 1980s that warships were first home-ported in the state. As a result of the Commonwealth government's Two Oceans Policy, announced in 1986, HMAS *Stirling* is now home to over half of Australia's fleet, including all its submarines. **G. L. W. Vickridge**

See also: Cadets, naval; First World War; Great White Fleet; HMAS *Sydney*; Second World War

Further reading: M. Berson, *Cockburn–The making of a community* (1979); G. Hermon Gill, *Royal Australian Navy 1939–1942* (1957); G. Hermon Gill, *Royal Australian Navy 1942–1945* (1968); J. K. Hitchcock, *The history of Fremantle–The front gate of Australia 1829–1929* (1929); A. W. Jose, *The Royal Australian Navy 1914–1918* (1928)

Netball 'Women's basketball' was renamed netball in Australia in 1970. The game appears to have been developed in 1891 by Dr James Naismith, a YMCA instructor at Springfield College in the United States. The original game of nine players was adapted to allow five or seven players. The sport was introduced into England with the first recorded game of basketball for ladies played in 1897. The game was brought to Australia by English schoolteachers with evidence of matches in Victoria in 1913. The seven-a-side game dominated in the schools and local competitions and was selected as the national game at the founding of the All Australian Women's Basketball Association in 1927. In contrast, men settled on the five-a-side game and adapted the rules to allow running and bouncing the ball. They formed the Amateur Basketball Association in 1939, offering a national men's championships in 1946. Their five-a-side game became an Olympic sport and Australia participated in its first Olympic Games in 1956 and the FIBA World Championships in 1970. Women also commenced playing the five-a-side competition, offering a national competition in 1955 and competing in the World Championships in 1957. To clearly distinguish between the games, the seven-a-side game 'women's basketball' was renamed 'netball', and in 1970 the national body became the All Australia Netball Association.

Following the early formation of the game in other states of Australia, seven-a-side basketball in Western Australia was introduced through the Young Women's Christian Association (YWCA). Guided by Miss Marjorie Black, the first competition was held in 1924. A prominent leader in developing women's basketball, Maude Matthews, became president of the Western Australian Women's Basketball Association (formed in 1928) from 1939–42, and again from 1945–62. She assumed many management positions, including state team manager, and was instrumental in the Association establishing its own headquarters at Matthews Basketball Centre, named in her honour and officially opened in 1961.

The move to the new centre signalled the beginning of the heyday of elite netball in WA, which was to last for twenty years. WA won its first national title in 1969, then with the sport renamed 'netball' the following year, went on to win four of the next five national titles between 1970 and 1974. Innovative coach Bette Allison made her mark in developing new coaching techniques in WA. The first World Tournament in London in 1963, with eleven countries participating, was won by Australia, and included four players from WA: C. Fleming, A. Foley, V. Goff and I. Huisken. The 1967 World Championships were held in Perth. During the 1960s and 1970s Australian teams included significant numbers of outstanding players from WA, including Gay Walsh (Teede), who captained the winning team at the Third World Tournament in Jamaica, 1971.

Despite the increase in recreation and sporting options available today, netball remains one of the largest participation sports in WA, with a registered membership that exceeds 33,000 people. Following the decision to move to regionalisation, to develop and strengthen suburban and country netball, the state body became independent and separated from the Matthews venue and its competition in 1990. The Matthews centre became the

home of the Perth Netball Association. WA Netball (Inc.) is now the umbrella organisation for the sport in WA, with eleven regions and over eighty associations providing services across the state. Following the introduction of a State League into WA Netball in 1989, WA entered the National Netball League in 1991, and as the Perth Orioles continues to participate in this competition.

Netball now extends beyond the boundaries of its earlier traditions. Once a winter sport played outdoors, netball is currently played throughout the year on both indoor and outdoor courts. While still predominantly a female sport, participants now also include boys, men, veterans and people with disabilities. Netball is an international sport and it remains the most popular women's team sport in Australia, with a total of approximately 350,000 netball players. Internationally, netball is played in about fifty countries, especially those of the British Commonwealth. **Jan Ryan and Marita Somerford**

See also: Basketball; Sport, disabled people
Further Reading: M. K. Stell, *Half the race: A history of women in sport* (1991)

New Age The New Age movement is a striking contemporary social and spiritual phenomenon. It consists of diverse and eclectic practices with an emphasis on personal transformation and healing, and engages with Indigenous cultures, eastern philosophies, bygone periods, as well as peace, ecology and the occult. Techniques include meditation, channelling, reiki, astrology, crystal therapy, tarot, yoga and magic. The New Age movement is the product of a long intellectual tradition dating back at least to the Renaissance, and has many historical antecedents, most importantly, in Western Australia as elsewhere, theosophy in the nineteenth and early twentieth centuries, Beat writers of the 1950s, and the countercultural practices of the 1960s.

84-year-old Fred Robinson, the 'Moses' of Carranya, near Coorow. Weekend News, *28 September 1974. Courtesy Stuart Dinmore*

The New Age spread to WA through books and travellers in the 1960s with experiences of eastern religious movements and the counterculture abroad and interstate. Some important strands of the New Age movement, such as the Universal Brotherhood, were exported from WA to other parts of Australia and overseas. Fred Robinson and Mary Robinson (née Broun), founders of the Universal Brotherhoood, set up three model communities—'Shalam New Age Information Centre' in Armadale (1963), 'Carranya' near Coorow in the Wheatbelt (1972), and 'The Homestead' at Balingup (1974–). As a result of *Shalam Light*, the movement's magazine, and lecture tours on the Age of Aquarius given by Robinson in the eastern states, many people were attracted to the Universal Brotherhood. The 'pop guru', as he was described, talked about vibrations, yoga, meditation, UFOs, cosmic consciousness, organic food, communes, love and Jesus Christ. At its height more than a hundred people lived at 'The Homestead'. Children were educated along Montessori and Steiner lines at an Education Department approved school. International links were established and, in 1978, an American group made a film about the movement.

In the last two decades, New Age shops, groups and magazines have provided

information, merchandise and networks. Founded in Perth during 1992 and published monthly, *Nova*, the pre-eminent New Age magazine in Australia, advertises courses and workshops on spiritual development and self-awareness. Today, New Age wares, books and information can be found in bookstores, gift shops, pharmacies and local newspapers, illustrating that the New Age has shifted from the periphery of society to a place nearer to the mainstream. **Nicole Crawford**

See also: Communities, intentional (alternative); Rajneesh (Orange People); Spirituality and religion; Theosophy
Further reading: J. Roe, 'Dayspring: Australia and New Zealand as a setting for the "New Age" from the 1890s to Nimbin', *Australian cultural history*, 16, 1997–98; S. Sutcliffe and M. Bowman (eds), *Beyond New Age: exploring alternative spirituality* (2000)

New Norcia is Australia's only monastic town. Its first fifty years were dominated by Bishop Rosendo Salvado (1814–1900), who, along with another Spanish Benedictine monk, Dom Joseph Serra, founded New Norcia in 1846.

Salvado's original vision was to create, among the Aboriginal peoples of the Victoria Plains, a Christian, largely self-sufficient village based on agriculture. However, after the decimation of the local populations by introduced diseases in the 1860s, he concentrated his activity on giving a practical education to the Aboriginal children who were brought to New Norcia from all over the colony. Like other missionaries of the nineteenth century, his aim was to 'civilise' and evangelise according to the European ideals of the time. Salvado led a monastic community that, at its height, numbered nearly eighty men, most of whom were Spaniards and lay brothers. His frequent fundraising trips to Europe provided him with the means to acquire land, to construct buildings and to purchase books, vestments,

artworks and ritual objects, as well as stock and equipment.

Following Salvado's death in late 1900, New Norcia changed direction and, over the next fifty years, became less of a bush mission and more like a traditional European-style monastic settlement. This process began with the arrival from Spain in 1901 of Salvado's successor, Bishop Fulgentius Torres (1861–1914). Finding the mission in decline, he sold some of its land to raise development funds. The monastery was completed in 1903; a façade and bell-tower were added to the 1861-built church in 1908; the ecclesiastical territory of the Abbey increased (1903) and a new Mission was established in the Kimberley (Drysdale, 1908). The buildings of St Joseph's School for Aboriginal girls (1861) were entirely replaced in 1909 (now for part-Aboriginal girls and with Benedictine Sisters). The original St Mary's for boys (1847) moved into its third-generation buildings in 1924. Torres personally designed and supervised the building of St Gertrude's Ladies College (1908) and St Ildephonsus College for boys (1913), staffing the former with Josephite Sisters and the latter with Marist Brothers. Torres paid particular attention to the interior decoration of the town's buildings, bringing the Spanish woodcarver Juan (John) Casellas and the monk–artist Fr Lesmes Lopez to New Norcia.

The direction set for New Norcia by Torres was continued during the leadership of Dom Anselm Catalan from 1915 to 1950. He added to the fabric of the town with the building of the Hostel—now the Hotel—in 1925–26, and encouraged the work of Dom Stephen Moreno, New Norcia's composer of religious music.

Despite the social upheavals of two world wars, New Norcia had become a stable and orderly, though perhaps inward-looking, religious settlement by the 1950s. Change occurred first within the monastery. In an effort to attract more Australians, the monastic lifestyle was adapted to better suit

local conditions. The reforms of the Second Vatican Council, implemented in the late 1960s, further simplified and clarified both monastic life and worship. However, the number of monks at New Norcia continued to decline. Outside the monastery walls, the changes were even more dramatic. The number of parishes staffed by the monastery was reduced to just one, the parish of New Norcia; the Aboriginal schools closed in the 1970s, and formal secondary education ceased with the closure of New Norcia Catholic College in 1991. However, hospitality at New Norcia has flourished and diversified since the early 1980s. The Museum and Art Gallery attracts thousands of visitors annually and offers guided tours of the town each day. In addition to the Hotel, the Monastery Guesthouse provides accommodation. The former college buildings are now used for school camps and adult workshops and conventions. In 1996 the monks established an Education Centre to further interpret the site for visiting students. New Norcia's traditional crafts of self-sufficiency, bread-making and olive oil production have also been revived.
David Barry

See also: Catholic church; Education, Catholic; Mission schools; Missions; Religious orders, Catholic men
Further reading: G. Russo, *Lord Abbot of the wilderness: The life and times of Bishop Salvado* (1980); D. R. Salvado, trans. E. J. Stormon, *The Salvado memoirs: historical memoirs of Australia and particularly of the Benedictine Mission of New Norcia and of the habits and customs of the Australian natives* (1977); C. T. Stannage, 'New Norcia in History', *New Norcia Studies*, 1 (1993)

New Norcia mission Named after the Italian town of Norcia, the birthplace of St Benedict, New Norcia mission to the Aborigines was established in 1846 by the Spanish Catholic Benedictine monks Rosendo Salvado and Joseph Serra on the Moore River 120 kilometres north of Perth. As with similar institutions in Australia, the mission explicitly demanded the withering away of Aboriginal culture and religion. Salvado built a village settlement, with farms, schools, houses and plots of land where Aboriginal families laboured and farmed while their children were educated in the mission schools in Christian and European ways. Later, with a police station and lock-up, a post office, and with the mission houses, monastery, workshops and mills, New Norcia became a picture of small-town bustle. Salvado also collected artworks and other valuables that, with religious material, transformed New Norcia into a place of learning. For the monks, a monastic life of reflection, prayer and missionary zeal was mixed with the hard work of providing food and other necessities to support the mission.

Pondering on the parlous state of the Aboriginal population in the 1860s, Salvado changed the mission's emphasis from 'saving souls' to education and 'child-saving', and established an orphanage and industrial school, searching out and removing children from well beyond the town's hinterland. By the end of the century, 132 boys and girls lived in two segregated orphanages, known as St Mary's and St Joseph's, while another sixteen occupied huts. After Salvado's death in 1900, his successor, Abbot Torres, changed direction again. Worried by the reduction of government subsidies, which caused the mission to sell off most of its land, and the declining need for labour to run newly fenced and mechanised farms, he established St Gertrude's and St Ildephonsus' boarding schools for white girls and boys. All four schools were separate and segregated institutions.

Salvado had been instrumental in persuading the government to include Aboriginal children and institutions in the 1874 *Industrial Schools Act*, thus giving him complete control of mission children, even against the

wishes of their parents. Children were kept at the mission long after they had finished school, exemplifying the ideology of control that characterised government policy towards Aboriginal people at the time. A monastic austerity, isolation and authoritarianism characterised life in orphanages and schools.

Much changed in the 1970s. A new appreciation of the importance of Aboriginal family and culture led to the closure of the orphanages. Falling enrolments led to the two white colleges merging to become Salvado College, which was of necessity made co-educational. Spanish was abandoned as the official language and, in 1974, the first Australian abbot, Dom Rooney, was appointed. A museum and art gallery were set up in the former Aboriginal girls' orphanage. When Salvado College closed in 1991 and New Norcia was no longer a mission or school, it entered difficult times. It became a more traditional monastery, at the same time hosting educational camps, exploiting the new interest in heritage and tourism and selling traditional produce like olive oil and bread.

Historical stocktaking has been mixed. While praising Salvado for his interest in and appreciation of Aboriginal culture, some historians now argue that his aim of Christianising Aborigines was a failure; others cast doubt on the morality of the enterprise as a whole. Like all such institutions now caught up in the politics of reconciliation, New Norcia has also had to come to terms with its past, with criticisms from Aboriginal people about the destruction of Aboriginal culture and from former residents of its orphanages and schools about physical and emotional abuse.
Charlie Fox

See also: Education, Catholic; Missions; New Norcia
Further reading: N. Green and L. Tilbrook, *Aborigines of New Norcia, 1845–1914* (1989); D. Hutchinson (ed.), *A town like no other: The living tradition of New Norcia* (1995); *New Norcia Studies*

New Zealanders The history of New Zealand migration to Western Australia is relatively undocumented, perhaps reflecting the tendency for those New Zealand-born taking advantage of the Trans-Tasman Travel Arrangement to reside in the more geographically proximate eastern states. Nevertheless, New Zealand-born migrants accounted for 2.25 per cent (47,333 people) of Perth's overseas-born population in 2006, the largest overseas-born group except from the UK, and slightly larger than the national average (1.9 per cent). According to the 2001 census, the majority have settled in the outer suburban areas of Perth, with notable concentrations in Joondalup, Wanneroo, Stirling and Swan.

The first New Zealand-born persons in WA were recorded in the 1891 census, following the discovery of gold in the North-West. Their movement within the colony, then state, remained closely linked to mining activity; this was evident in the exodus of New Zealand-born persons from the Pilbara region following the 1982–83 recession and subsequent loss of mining jobs. Similarly, the recent mining boom has also contributed to recent steady growth of the New Zealand-born population in WA. Perhaps because of their employment profile, the New Zealand-born are distinctive among the overseas-born in WA for their tendency to reside in rural as well as urban areas. Though poorly documented, there is a significant New Zealand-born Maori presence in WA (10,208 in the 2001 census), as evidenced by current Maori social and cultural organisations in Perth and regional areas (including the Te Rangatahi Maori Club Inc.). During the Second World War there was a little-known riot in Fremantle between locally resident Maori and white US servicemen. The Maori presence is distinctly different from other ancestries able to take advantage of the Trans-Tasman travel agreement, such as the Cook Islanders, who have come to WA in only very small numbers—only 245 Cook Islanders were resident in WA in 2001.
Raelene Wilding

See also: Migrant ethnic associations; Migration; Race riots

Further reading: S. Buetow, 'International migration: some consequences for urban areas in Australia and New Zealand', *International migration*, 32, 2 (1994); G. Carmichael, 'New Zealanders', in J. Jupp (ed.), *The Australian people: an encyclopedia of the nation, its people and their origins* (2001); G. A. Carmichael, *Trans-Tasman migration: trends, causes and consequences* (1993)

Newspapers, colonial The colony of Western Australia was less than a year old with a population of fewer than 1,400 when its first newspaper, *The Fremantle Journal and General Advertiser*, was produced by James A. Gardner. It was written out by hand and the number of copies produced is unknown. Only issue 3, of 27 February 1830, is known to have survived, and Gardner had left the colony by the end of the year. Another pen and ink production, *The Western Australian Chronicle and Perth Gazette*, followed from 19 February 1831, and nine issues are known. While the first named has no price, the second sold for the large sum of three shillings and was published by engineer William K. Shenton, who operated the first flour mill in the colony. The arrival of a printing press allowed Shenton to produce the colony's first printed newspaper, *The Fremantle Observer, Perth Gazette and Western Australian Journal*, from 25 April 1831. The next few years saw frequent changes in proprietors and titles of newspapers.

On 5 January 1833, Charles Macfaull published the first issue of the *Perth Gazette and Western Australian Journal*, a newspaper that continues to the present day as *The West Australian.* It lays claim to being the second oldest journal in Australasia, preceded only by the *Sydney Morning Herald.* The *Swan River Guardian* (6 October 1836 – 22 October 1838) was established by William Nairne Clark as a radical alternative to the *Perth Gazette*. He was

a lawyer who had been acquitted of manslaughter in 1832 after duelling with a man who had been his partner in an earlier short-lived newspaper, the *Inquisitor*. Competition for the *Gazette* did not really arrive until August 1840, when *The Inquirer: a Western Australian Journal of Politics and Literature* was established by lawyer Francis Lochee, the publisher and first editor, in conjunction with William Tanner. This, too, was a long-lasting title, ceasing as late as 1990 as *The Daily News.*

In 1867 ex-convicts James Pearce, William Beresford and James Roe established the *Fremantle Herald*, which ran until 1886. All three men were respected for their learning, the latter two having been Anglican clergymen, and the paper was noted as a champion of working-class views.

Early newspapers were weekly, though some gradually increased their frequency, with *The West Australian* becoming daily (Monday–Saturday) from 1 January 1885. A regular Sunday newspaper was not available until 19 December 1897, when *The West Australian Sunday Times* (now *The Sunday Times*) first appeared. Western Australian newspapers were not only published in the colony. *The Swan River News and Western Australian Chronicle*, which advocated the opportunities and the virtues of the colony, was published monthly in London from 1844 to 1849. The first religious newspaper was *The West Australian Catholic Record*, begun in 1874. With the 1890s gold rushes came a big increase in newspaper publishing in Western Australia and a definite end to the colonial era. **David Whiteford**

See also: *Daily News*; Newspapers, country; Newspapers, goldfields; *Sunday Times*; *West Australian*

Further reading: J. Hay, 'Literature and Society 1829–1979' in C. T. Stannage (ed.), *A New History of Western Australia* (1980); B. Smith, 'Early Western Australian Literature, A Guide to Colonial Life', *University Studies in History*, 6, 1 (1961–62); *The*

Cyclopedia of Western Australia (1912, 1985 facsimile); *Twentieth Century Impressions of Western Australia* (1901, 2000 facsimile)

Newspapers, country The first Western Australian newspaper to be published outside the population centres of Perth and Fremantle was Albany's *The King George's Sound Observer* in 1868, of which only issues 1 and 4 are held in the Battye Library. The next was *The Eastern Districts Chronicle* in York, published between 1877 and 1926 and continuing as *The York Chronicle* until 1959. *The Albany Mail and King George's Sound Advertiser* began on 1 January 1883, and the present-day *Albany Advertiser* can trace its history back to this title, making it the longest running non-metropolitan newspaper title in this state.

The first newspaper in the Kimberley was *The Derby News*, issue 1, dated 12 March 1887. This newspaper is known only from the original in the State Records Office and a photocopy in the Battye Library. Costing one shilling, like its 1831 predecessors in Perth and Fremantle it is handwritten. The first regular newspaper known in the Kimberley was Broome's *Dampier Despatch* (1904–05). The Pilbara's first newspaper was *Northern Public Opinion and Mining and Pastoral News* (1894–1902), while *The Northern Times* (1905–83) was the first to serve the Gascoyne as well as covering most of WA north of the Tropic of Capricorn.

There are few areas of WA that have never been covered by a newspaper. Even Eucla and the Nullarbor had *The Eucla Recorder* (1898–1900), while the first goldfields newspaper was the *Geraldton Murchison Telegraph* (1892–99). Subsequently many goldfields newspapers were established, particularly in the Eastern Goldfields, although most were short-lived.

Most towns within the Wheatbelt were covered by at least one newspaper for a time, although it was not until well into the 1900s

that most appeared. These included such grand titles as *The Bruce Rock Post and Corrigin and Narembeen Guardian* (1924–48), *The Bonnie Rock—Lake Brown—Mukinbudin Leader* (1934–39) and *The Wickepin Argus and Eastern Districts Representative* (1910–34).

The 1900 *Post Office Directory* records over forty newspaper titles in production in WA, while the 1934–35 issue records over seventy, indicating the growth in rural press. Amalgamations and office closures after the Second World War saw the number of newspapers shrink, until they were largely produced in regional centres only. Country Newspapers Ltd became one of the largest proprietors of rural newspapers, publishing at times over twenty titles. The last family-run independent newspaper was *The Gnowangerup Star*, which ran from August 1915 until June 2003.

For much of their existence, the major state newspapers such as *The West Australian*, *Daily News* and *Sunday Times* published multiple editions, usually including an express, air, or country edition that would be first off the press and sent throughout the state. Conversely, the rural newspaper the *Western Mail* had, for a while, a city edition but no issues are known to survive.

Newspapers are still published for country areas, but the local newspaper of old has now largely been replaced by weekly community A4-size newsletters (such as Coorow's *Magpie Squawk*) that are once again providing rural WA with local news coverage. **David Whiteford**

See also: *Daily News*; Journalism; Newspapers, colonial; Newspapers, goldfields; *Sunday Times*; *West Australian*; *Western Mail*

Newspapers, goldfields Newspapers of the Western Australian goldfields, particularly during the boom of the 1890s, were an

integral part of an exciting new frontier. A whisper, a rumour, a nugget or vein, and miners, water-carters, shopkeepers and prostitutes began the trek to another place of certain fortune. In 1894 they came to 'Fly Flat…hundreds of tents…creeping, octopus like to north and south' (*Coolgardie Pioneer*, 24 September 1898). And, as Beverley Smith notes, 'wherever the prospector and miner went in Western Australia, the journalist and compositor were not far behind'.

Before Coolgardie and Kalgoorlie there was gold—and newspapers—to the north: the Kimberley ranges in the late-1880s, Yilgarn in 1887 and the Pilbara and Murchison in 1889. The *Murchison Miner*, established by a 't'othersider', Alexander Livingstone, in 1892 was radical and strident in its tone, with a passionate commitment to social justice. Predictably enough, the quality of the finished product was variable. Livingstone's paper was said to resemble 'nothing so much as a sheet run by a cranky costermonger set up in a blind asylum, inked with inferior cart grease and printed on a mangle' (*Sunday Times*, 14 July 1907).

Nonetheless, the newspapers of the goldfields did share a certain resemblance. The front page was invariably swamped with advertisements promoting everything from shovels to liver tablets. They reported on news from around the world and their leaders were well written, diverse in subject and often highly political: within a four-week period in 1898, the leader writer of the *Kalgoorlie-Boulder Standard* discussed state schools, the Dreyfus case, the English novel, alluvial disputes and a strike at Menzies.

The newspapers were often adversarial in nature—smaller papers popped up merely to attack another publication and just as quickly disappeared. A more enduring rivalry existed between the eternally contrary Frederick Vosper and his *Coolgardie Miner* and the more sedate John Kirwan's *Kalgoorlie Miner*. In terms of longevity, Kirwan won hands down. The *Kalgoorlie Miner* began in 1895 and is still being published; the much more radical *Coolgardie Miner* was the first to appear on the Eastern Goldfields in 1894 but was gone by 1911. Other newspapers experienced a range of fortunes: the *Goldfields Morning Chronicle* (1896–98), *Leonora Miner* (1899–1928), *Coolgardie Pioneer* (1895–1901), *Cue Herald* (1899–1901) and the *Menzies Times* (1896–1911) are just a few of the papers which emerged and disappeared. Among the more substantial papers was James MacCallum Smith's *Sunday Sun,* the goldfields' first Sunday paper. Established in 1898, the *Sun* sponsored a number of poets and rhymesters including Edwin Greenslade (Dryblower) Murphy, who became a celebrity when he went to McCallum Smith's Perth *Sunday Times*.

The newspapers of the WA goldfields fostered a culture of communal reading. With topics ranging from the ten-foot alluvial rule to the rights of women and a plethora of advertising material, they grounded social and commercial life in the hard copy of paper and print. **Peter McClelland**

See also: Journalism
Further reading: J. Bastin, 'The Western Australian Goldfields: 1892–1900', *Historical Studies*, 6, 23 (1954); A. Hayward, 'Heyday of the Goldfields: The New Journalism', *Westerly*, vol. 3 (1976); J. Hay, 'Literature and Society', in C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Newspapers, suburban Suburban newspapers in Perth, now defined as free, home-delivered newspapers supported by advertising revenue, report news gathered from within distinct geographical boundaries. They mirror the newspapers published in country towns and identify a community of interest, reporting news big and small and reflecting the views and special interests of their readers.

Their early history in Perth's suburbs is marked by brave but unsuccessful struggles

for survival. Suburbans briefly flowered along new train and tram routes, such as the *Suburban Standard*, established in 1897 and carrying a cover price of one penny, circulating in Subiaco, Leederville and Claremont. Others came and went during the 1920s and 1930s, in Midland, Victoria Park and Claremont. In 1944, Shipping Newspapers, a Perth-based printing company that published the *Daily Commercial News*, made a determined effort with the establishment of the *Wembley, Floreat Park, City Beach and Subiaco Gazette*. It continued as a four-page tabloid and was joined in July 1959 by the *Claremont-Nedlands Weekly*, published by the same group, which announced proudly in its inaugural issue that it was outside the monopolistic daily press, in a position to take an objective view and to serve as a rallying point for rational people. Shipping Newspapers died in debt in the mid 1970s, taking the *Gazette* and the *Weekly* with it. Its advertising revenue had been choked by the metropolitan morning Perth newspaper *The West Australian*, which had started zoned suburban inserts, the North, South, East and West suburban supplements, in the late 1950s. The Hancock–Wright mining partnership's metropolitan-wide chain of suburbans, with eight individual titles, published as an adjunct to its paid Sunday *Independent* in 1976, lasted a year.

Endurance meant starting small and remaining resolutely local. Computer technology enabled 'owner driver' papers to spring up simultaneously but independently in Armadale (Comment group), Subiaco (POST group) Wanneroo and Stirling (Community Newspapers group) and Fremantle (*Gazette*) by 1977. This revolution came armed with novel letterbox delivery and high, news-driven readership attracting lucrative advertising. To compete, WA Newspapers Pty Ltd killed its suburban supplements then started *The West Advertiser*, a series of zoned suburban letterbox-delivered newspapers that surrendered in the early 1980s. A similar fate befell

a group of suburban newspapers established by Robert Holmes à Court's Bell group at the same time.

In 1985 all the independents, except the POST group, sold their titles to the Wanneroo-based Community Newspapers Group Pty Ltd (CNG), owned fifty-fifty by the two media giants News Ltd and West Australian Newspapers Holdings. In 2005 CNG published sixteen titles covering greater Perth from Mandurah to Yanchep and from the coast to the country towns of Northam and York, with a total circulation of 766,000. History is repeating itself, with locally owned independents gathered under the banners of the *Fremantle Herald* group, the Kelmscott-based *Examiner* group, and *Echo* newspapers in Midland, as well as the POST group in Subiaco surviving and thriving, with a combined circulation of 322,000. **Bret Christian**

See also: Advertising; *Independent*; Journalism; *West Australian*
Further reading: P. Powell, *20 Years of the Post* (1997)

Ngala The organisation known as Ngala evolved from the House of Mercy, established as a non-denominational charity for single mothers in a house bought in Lake Street in August 1891. The House of Mercy was established at the instigation of the Rev. J. Young Simpson, a Methodist minister; his fellow Board members included a Presbyterian minister and two ministers from the Church of England. Unmarried women under thirty years of age bearing their first baby were admitted prior to confinement and were initially required to work in the laundry and to remain in the Home for nine months after their babies were born. The Home moved several times, first to a house at 100 Aberdeen Street, West Perth, in 1894, and again in 1901 to a new location in Lincoln St, Highgate, and rules were modified. Over the first eight years of its operations sixty-

six women were admitted. The home was funded partly by the laundry work and partly by charity.

In the absence of a government maternity hospital, the House of Mercy's committee hoped that it would become the state maternity hospital, but King Edward Memorial Hospital (KEMH) was established independently in 1916. In that year the name of the Home was changed to Alexandra Home for Women. From 1936 mothers gave birth at KEMH, and returned to the Home for care. In 1948 Mothercraft training was instituted under the auspices of the Nurses' Registration Board, and in 1951 the name was changed to the Alexandra Home for Mothers and Babies and Mothercraft Training Centre. This last change reflected the training program established for mothercraft nurses under the auspices of the Nurses' Registration Board.

In 1959 the organisation moved to a purpose-built facility on a site in George Street, South Perth, and became known as Ngala Mothercraft Home and Training Centre. Ngala is an Aboriginal word of the Bibbulmun dialect meaning 'we two'. No confinements took place at this site. Antenatal care was provided there by obstetricians but mothers were delivered at KEMH and South Perth Community Hospital, returning to Ngala within forty-eight hours and receiving post-natal care there.

Although there had been occasional adoptions from the 1890s onwards, the policies of the Home had always been that mothers should keep their babies. The Alexandra Home helped arrange some private adoptions, but when Ngala was established, adoptions were largely handed over to the Community Welfare Department to arrange the legalities. Ngala's role included giving advice to both adopting and relinquishing parents, as well as live-in mothercraft training. Adoptions were an increasing part of Ngala's work, until the provision of pensions enabled single mothers to keep their babies.

With changing community and social needs, the Centre changed its focus and the part of Ngala's work that centred on midwifery ceased to operate. In the 1980s parenting and childcare became its core work, and to underline this role the name was again changed to Ngala Resource Centre.

Other organisations that offered assistance to the single mother for long periods during the twentieth century included the Salvation Army and the Sisters of Mercy. Family Court records show adoptions occurring from Hillcrest, a maternity home in North Fremantle from 1899 onwards. Run by the Salvation Army from 1912, it closed as a maternity home in 1974. The Sisters of Mercy established St Vincent's Foundling Home in Subiaco in 1914 and then the adjacent St Margaret's Hostel for expectant mothers (1918–71). **Beryl Grant**

See also: Birth; Child health; Infant mortality; King Edward Memorial Hospital (KEMH); Nursing; Orphanages; Religious orders, Anglican women; Religious orders, Catholic women; Salvation Army

Further reading: J. Lang, *The open door: a history of loving care for families, House of Mercy-Alexandra Home – Ngala, 1890–1980* (1980); A. Porter, '"A mangle, wringer, bowl, scissors, a Bible and a prayer book": The House of Mercy, Perth, 1890–1899', *Time remembered*, 2 (1978)

Nickel exploration began in WA in 1955, by International Nickel Company (INCO), which discovered a large but sub-economic laterite deposit at Wingelinna on the South Australian border. Little further activity occurred until 1964, when a Western Mining Corporation (WMC) exploration team was told of a previous but unpublished identification of nickel in rocks around Kambalda, near Kalgoorlie. At this time the metal was in short supply and international prices were high, offering WMC a brief window of opportunity to

launch a mine with attractive returns. Nickel prices had been $2,000 a tonne in 1968, but in October 1969 the spot price for nickel reached $14,000 a tonne because of unprecedented international demand and a strike in Canadian mines. Nickel sulphides were discovered at depth around the Kambalda Dome in 1966. Production began in 1967, only eighteen months after the first successful drill hole, a remarkable achievement by world mining standards. Processing operations were quickly established at Kwinana and Kalgoorlie, providing an attractive value-added element to the venture.

The so-called Poseidon boom followed the Kambalda discovery, with shares in exploration companies reaching remarkable levels, in the case of Poseidon Ltd rising in four months in 1969–70 from 33 cents to $280. Scores of companies rushed into the region, seeking tenements and indications of nickel sulphides, but the boom collapsed in 1970 and only a few mines were finally launched, including the prospect held by Poseidon Ltd at Mount Windarra. After some changes in ownership, it was finally closed by WMC in 1989.

A Senate Select Committee appointed in 1972 to examine the workings of the stock market uncovered some improprieties in the nickel share-market boom and recommended measures to avoid the worst of them. The Committee, in its findings, described the Poseidon boom as 'the greatest speculative share boom in Australia's history and perhaps one of the most remarkable which the world has experienced'.

The Kambalda group of mines became one of the world's principal sources of nickel. In the late 1990s three projects based on nickel laterites were launched, but they faced technical and financial problems in their early years. By 2003 high prices were stimulating another nickel boom—albeit more restrained than that of 1969. A number of new mines opened and Australian Bureau of Agricultural and Resource Economics statistics show that the value of Australian nickel production in 2008–08 was $5.8 billion. The state is now the World's third largest producer of nickel. **John McIlwraith**

See also: Eastern Goldfields; Geology; Mining and mineral resources; Stock Exchange
Further reading: G. Adamson, *Miners and millionaires: the first one hundred years of the people, markets and companies of the stock exchange in Perth, 1889–1989* (1989); J. J. Gresham, *Kambalda: history of a mining town* (1991)

Night-life for Europeans in Western Australia began formally on the evening of 4 June 1830, when a select few attended a ball at Government House; subsequently, balls, dinners and parties were regularly enjoyed by the colony's elite. Inns and taverns in new settlements across the colony catered to a wider section of society, while during the 1880s evening ferry rides, 'crabbing parties' beside the Swan, or dinner-dances at the Alta Gardens Hotel (1879–84) became popular among the nascent middle class in the city. Colonial night-life was transformed following the gold rushes of the 1890s. By the decade's end, vaudeville acts showed frequently in the new theatre-gardens, such as the Cremorne Gardens of Perth, Kalgoorlie and Coolgardie (1897 and 1898); palatial new establishments like James Graves' Osborne Hotel (1895–1900) on Freshwater Bay had opened; and a raucous atmosphere prevailed nightly in the hotels of Fremantle and the goldfields boom towns. Edwardian taste of the early 1900s was catered to by a visit to His Majesty's (opened 1904) or the Theatre Royal (opened 1897) in Perth, or the Dalkeith Opera House (opened 1895, and later renamed King's Theatre), while the advent of 'talkies' in the late 1920s led to the opening of such grand 'picture palaces' as the Ambassadors (1928–72), Regent (formerly Queen's Hall, 1928–73) and Capitol (1929–67) theatres in

Perth, and the stylish Art Deco Regal (opened 1938), Ritz (1935–62) and Windsor (opened 1930) theatres in the suburbs.

In the 1920s official recognition was belatedly given to Perth's own 'red-light' district on Roe Street, over a decade after prostitution had been contained at Kalgoorlie away from the town's main street and the presence of wives and children. The 'Jazz Age' also hit the state in the 1920s, with Saturday nights in the dance halls, and in Fremantle's Uglieland and Perth's White City fairgrounds (1922–29) hosting crowds of young men and young women, 'flappers', who dared to smoke and drink in public and wear the latest fashions. A fresh wave of excitement hit in 1942–43, when American servicemen and their admirers flocked to existing halls and hotels, and packed out fast-appearing new haunts such as the Swan Dive ballroom or the Silver Dollar cabaret bar.

The 1950s saw an influx of Hollywood movies and American styles of music, dress and dancing, together with the spectre of delinquency by way of the presence of 'bodgies' and 'widgies' in coffee lounges and 'jive dives' like Scarborough's Snakepit. The baby-boomer generation began to make an impression in the 1960s and 1970s, when folk music was first heard in coffee bars like Shiralee in Perth, and live bands became

A ball at the Yanchep Caves in the 1930s. One of the first held. Given by Labor woman Mrs S. M. Mason, State President, May Holman (second from left) and Sheila Holman making her debut. Courtesy West Australian *(HIST6928)*

popular in pubs, and pop music in nightclubs. Pinocchio's (1967–94) on Murray Street enjoyed an extraordinarily long reign as the place to be seen. Postwar immigration added vibrancy and a cosmopolitan range of restaurants and cafés to the inner city; and from Northbridge, after 1981, emerged a dedicated precinct of trendy nightclubs and brasseries. In 1988 a casino and entertainment complex opened at Burswood.

Fremantle's rejuvenation in the mid 1980s preserved much of the heritage of a long-favoured scene, though the restored facades marked a transition from working-class pubs to upmarket bars. In Perth, the closure of such icons as the Esplanade (1898–1972) and Palace (1895–1986) hotels, and of the Embassy (1928–82), Canterbury Court (formerly the 'Shaftesbury' and 'Luxor', 1904–90) and Pagoda (1922–96) ballrooms, amounted to the ending of an era in the state's night-life. However, favourite new nightspots were created in the suburbs through the building of large cinema complexes, and a revamping of venues in older centres like Claremont, Subiaco, Leederville and Mount Lawley. Since its opening in 1899, balls had been held regularly in Government House Ballroom, especially to mark the coming-out of debutantes. Though this practice diminished in the 1980s, some of the old glitz and glamour returns each year when city hotels host increasingly lavish high-school balls. **Joseph Christensen**

See also: Cinema; Class; Drinking; Eating places; Festival of Perth; Goldfields theatre; Music; Musical theatre; Opera; Popular music; Rock music; Sex work (prostitution); Theatre and drama; Ugly Men's Association; USA, relations with; West Australian Symphony Orchestra; Youth culture

Further reading: M. Blyth and N. Blyth, *Hesperia: A Concise History of Perth and Fremantle, plus tours, city and country* (1996); V. Courtney, *Perth–and all this! A story about a city* (1962); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); J.

Gregory (ed.), *Western Australia between the wars, 1919–1939: Studies in WA History*, 11 (1990); C. T. Stannage, *The people of Perth* (1979)

Noonkanbah dispute Noonkanbah is an Aboriginal-owned station seventy kilometres south-west of Fitzroy Crossing in the Kimberley. Europeans first occupied Noonkanbah in 1886 to graze sheep, and it became one of the main properties of the Emmanuel family. In the early years the Aboriginal people of the district resisted the occupation and many were shot or imprisoned for stealing sheep. In time they became the labour force for the station, and for many years Noonkanbah produced one of the largest clips in the country.

In 1971 the Aboriginal people left the station in protest after several years of harsh treatment from the manager. Then in 1976 the Aboriginal Land Fund Commission purchased the station for the Yungngora community, enabling the return of the people from Fitzroy Crossing to their own country. Within two years, in the Kimberley mineral rush of the late 1970s, the station was almost covered by 497 exploration tenements of mining companies. One of these tenements belonged to the Amax Corporation of America, a company searching for oil in the Kimberley. It covered an important Aboriginal site at Pea Hill on Noonkanbah.

The Yungngora Community, with much help from other Aboriginal people in the Kimberley and across the country, from churches, unions, the ALP, and many concerned citizens, tried to stop the drilling near Pea Hill. After a protracted and sometimes bitter fight, the state government of Sir Charles Court ordered a police escort for the transportation of an oil rig to Noonkanbah to enable drilling to proceed. On 12 August 1980 a convoy of trucks from Perth with a heavy police escort crashed through a blockade at Mickey's Pool Creek and there were some arrests. Drilling operations commenced, but the search for

oil was unsuccessful and Amax abandoned the site.

Noonkanbah was a conflict between different ways of seeing and using land—Aboriginal law and religion versus the European notion of property law and exploitation of resources. For Aboriginal people and others the Noonkanbah dispute is remembered as a dramatic turning point in the cause for Aboriginal rights in Western Australia. **Michael Gallagher**

See also: Aboriginal Land Councils; Kimberley Land Council; Oil and gas
Further reading: S. Hawke and M. Gallagher, *Noonkanbah: whose land, whose law* (1989); E. Kolig, *The Noonkanbah Story* (1987)

Nuclear testing Nuclear weapons were first regarded as potential military armaments by Britain in the late 1930s, but it was not until 1947 that Britain decided to produce its own nuclear weapons. William Penney, appointed Director of Atomic Weapons Research, had been a member of the British and American partnership which produced the first atomic bombs in 1945. Britain had expected a continuation of its wartime collaboration with the USA, but the *United States Atomic Energy Act* of 1946 (*The McMahon Act*) ended this relationship. Initially there had appeared to be prospects of Britain using US weapons-testing facilities, but with the dismissal of this possibility Britain looked to the Commonwealth countries for an alternative. Although a northern hemisphere location with ready access to London was desirable, the more acceptable alternative became the Monte Bello Islands, about 80 kilometres west-north-west of the Pilbara coast of Western Australia at Dampier. This location had ready access to the Woomera rocket range facilities, and a first approach was made in late 1950 to the Australian government through Prime Minister Robert Menzies. Subject to, and following a general election in May 1951, Menzies approved a test program

at Monte Bello in October 1952. The deci-
sion was a Commonwealth one, although the
government of WA did not object; indeed the
state benefited in many ways, including the
upgrading of communications, and the first
introduction of direct telephone services in
the northern half of the state.

With the selection of the Monte Bello
Islands as a test site, the *Defence (Special
Undertakings) Act* No. 19 of 1952 was passed
by federal parliament to proclaim a Prohibited
Area radiating 45 miles from the islands. In
addition a Notice of Warning declaring a
'Danger Area' for up to one hundred miles
was issued to shipping in August 1952. Tests
were carried out in association with the
requirements of the Defence Forces, which
included both British and Australian Forces.
The first program was primarily a naval
operation, simulating a nuclear attack on a
port installation. For this purpose the nuclear
device was detonated within a small frigate,
HMS *Plym*, and detonated below sea level.
The second naval involvement, in May and
June 1956, also at the Monte Bello Islands,
had as its object the practical testing and
development of shipboard decontamination
facilities. Because more powerful weapons
were to be tested, the warning of a Danger
Area was extended to 150 miles (in addition
to the *Defence Act (Special Undertakings)*
No. 19 of 1952). In both tests the British
destroyer HMS *Diana* sailed through the
areas of fallout from the explosions while
continually sprayed by water to remove con-
tamination. Because of its role in the tests,
HMS *Diana* was subsequently refused entry
to Fremantle port, and the voyage returning
to *Diana*'s home port was delayed by active
involvement in the Suez crisis. Although sub-
jected to considerable periods near or under
the atomic explosion clouds, the crew of the
Diana was never recognised or compensated
for this hazardous work.

Programs for the involvement of Army
and Air Force units in nuclear weapons tests
were developed at Emu in South Australia

*A blast that echoed around the world. Precautions
were limited when the Monte Bello atomic tests
were conducted in May 1956. The big bang was
witnessed at the Onslow Hotel by a crowd who
gathered to watch atop the establishment's kegs
of beer. Courtesy* West Australian *(AK2799)*

in 1953, and subsequently at Maralinga.
Units were mainly British and Australian,
but some included representatives of many
Commonwealth countries. Concerns relat-
ing to the tests at Monte Bello, Emu and
Maralinga, which began to be expressed in
the late 1970s, led to the establishment of
a Royal Commission to consider all aspects
of the test programs. Concerns included the
extent to which toxic contamination may
have been carried by the Leeuwin Current
flowing from near the islands along the
coastline of WA. However, while programs
for measuring long-term effects on land were
established in 1956, the risk of water-borne
toxic contamination in the 1950s was not
considered significant, and would have been
difficult to establish later.

While there was no evidence that Aborigi-
nal people may have been affected by toxic
contamination from the Monte Bello tests, it
was appreciated after the first mainland tests
at Emu in South Australia in 1953 that the
permissible exposure to radiation did not take
into account the distinctive lifestyles of Abo-
riginal people. Existing guidelines had always
assumed people exposed to radiation to be

fully clothed, whereas Aboriginal people living in the mainland test areas tended to live in the open, wore minimal clothing and hunted for food in areas liable to toxic contamination. Subsequently, the guidelines were amended for future tests at Maralinga. The relocation of Aboriginal people from areas considered to present health hazards during the mainland tests at Emu and Maralinga was, perhaps, the final move in a process of voluntary relocation that had begun before 1920 and which had resulted in considerable changes to their lifestyles. **Ray Acaster**

See also: Anti-nuclear movement; Greens Party; Peace movement

Further reading: R. Acaster, 'British nuclear testing at the Monte Bello Islands', *Early days*, 11, 1 (1995); S. Davenport, P. Johnson and Yuwali, *Cleared out: First contact in the Western Desert* (2005); M. Gowing and L. Arnold, *Independence and deterrence: Britain and atomic energy, 1945–1952* (1974); J. L. Symonds, *A history of British atomic tests in Australia* (1985)

Nursing is a practice profession based on a knowledge of social, physical and behavioural sciences that uniquely addresses the healthcare needs of society. Over the years this mandate has not changed. Technological advances, however, have changed the patterns of diseases, treatments and peoples' responses to illness. In order to keep up to date with the knowledge that underpins these changes, nurse education has changed from the Nightingale system of apprenticeship training to a professional preparation in institutions of higher learning. In 1974, Western Australia was one of the first states in Australia to commence nurse education at the Western Australian Institute of Technology (WAIT, now Curtin University of Technology).

Nursing remains a female-dominated profession. In the early years of the Swan River Colony it was a woman's role to provide care to those who were unable to care for themselves. Women who showed an aptitude for nursing were recommended by medical practitioners and employed by families to care for the sick. Formal nurse training began in 1897 at the Colonial Hospital (now Royal Perth Hospital). It was a two-year course whereby probationers were taught by medical practitioners and a matron. At the time the colony was experiencing a population explosion associated with the discovery of gold. Poor housing, inadequate sanitation and a rise in infectious diseases increased the demand for qualified nurses, especially on the Eastern Goldfields. These conditions gave rise to 'bush nursing'. The Methodist church sponsored nurses from the eastern colonies, who took up the challenge of nursing the sick. These 'sisters of the people' had an arduous task in the waterless country. Typhoid was endemic, and many people, including some nurses, succumbed to the disease. Those nurses who remained in Perth visited many people in the community, often to the detriment of their own health. Smallpox, tuberculosis and diseases carried by vermin became the daily hazardous nature of a nurse's work. The first district nursing organisation in urban and rural WA was the Silver Chain Nursing Association, established in 1905. Community nursing (as it is now called) involves primary and tertiary healthcare and remains an important facet of nursing, with registered nurses specialising in this field of practice. Community nurses today can be found in the metropolitan, rural and remote Aboriginal communities.

Up until the move to tertiary education, trainee nurses were mostly young, single women indentured to their training hospital for three years. They endured a strict quasi-military regime at work and in the nurses' quarters. It was mandatory to 'live in' as the matron was responsible for the trainee nurses' welfare. Lectures were conducted by medical practitioners, often in the evening after work, and nurse tutors followed with teaching nursing skills. Applying skills and

knowledge to the nurse's role was difficult, as trainees could expect to work in different parts of the hospital not necessarily coinciding with lecture topics. Once on the ward the charge nurse was responsible for teaching trainee nurses. Often this would be ad hoc, as the charge nurse was also responsible for the management of patient care, which took priority. In the hierarchical nursing service the junior trainee nurse was expected to undertake menial tasks, such as cleaning and tidying, while senior trainees generally performed patient care tasks.

In 1900 a 'schedule of study' was introduced by the Australian Trained Nurses Association (ATNA). This was a national nursing organisation, with its headquarters in Sydney. It stipulated that a nursing course should be of three years' duration in a recognised hospital. At the time, the Colonial, Coolgardie and Kalgoorlie hospitals were endorsed as training schools as they could accommodate forty patients and the matron was an ATNA member. The ATNA set final examinations until 1938, at which time the Western Australian Nurses' Registration Board (NRB) took over the responsibility. The NRB was established in 1922 under the proviso of the state *Nurses Act*. The schedule reflected the age of infectious diseases, domesticity and subordination of women. This syllabus was modified over the years in light of technological changes, but did not undergo a major change until 1968.

The content of the training syllabus changed in 1968, to a curriculum that equipped trainees with the knowledge and skills to practise as a registered nurse at a basic level in a variety of settings, including emergency and operating rooms, adult and paediatric medicine and surgery, rehabilitation and aged care. The registered nurse is now required to undertake postgraduate education to specialise in such areas. Changes to training and, as a corollary, to nursing practice were the responsibility of the NRB. The Board was responsible to the Principal Medical Officer/

Commissioner of Health and was established according to the WA *Nurses Act* of 1921. In 1970 a new *Nurses Act* proclaimed the NRB as an autonomous body. This allowed the new 1968 curriculum or Hospital Based Diploma (HBD) to be implemented. It linked school education to higher education as it required the trainee to have successfully completed their high school leaving certificate to be accepted into a School of Nursing at hospitals such as Royal Perth, Sir Charles Gairdner, Fremantle, St John of God Subiaco and the Government School of Nursing. Prior to this, trainees could commence their training on the proviso that they met the criteria stipulated by the NRB, including an entrance examination.

Today, the preparation of nursing professionals takes place in four universities in Perth. Professional nurses focus on the health needs of the community in all locations, providing nursing care in hospitals, homes, prisons, schools, industry, Aboriginal communities and through the Royal Flying Doctor Service. In the healthcare team they play a major education role in preventing disease and promoting wellness. Ultimately they remain focused on providing quality care. **Carol Piercey**

See also: Curtin University of Technology; Fremantle Hospital; Public health; Royal Flying Doctor Service; Royal Perth Hospital; Silver Chain; Sir Charles Gairdner Hospital; St John of God hospitals; Typhoid epidemics
Further reading: J. Chetkovich and D. Gare, *A chain of care: a history of the Silver Chain Nursing Association, 1905–2005* (2005); V. Hobbs, *But westward look: nursing in Western Australia, 1829–1979* (1980); C. Piercey, *Sisters at school: a history of nursing education in Western Australia, 1962 to 1975* (2006)

Nyoongar land clearing (Maarlak Barminy: Green Lands Removing) For Nyoongar, the Aboriginal peoples of the South-West of

Western Australia, the forests of the region are important to their spiritual wellbeing, identity and survival. The pre-logged forests are especially sacred to the Nyoongar. These places of old forest country, old trees and sacred places, untouched by the Wadjella (non-Aboriginals), were and continue to hold the spirits and wellbeing of the Nyoongar.

The late Cliff Humphries was born in Beverley in 1910 and died in 1998. He and his wife Letty were respected elders of the Maarng-art Nyoongar, the Jam gum (Baladong) peoples of the Eastern Wheatbelt. Many of his generation were witnesses to the cultural and environmental impact of Wadjella land-clearing practices and believed that they had ensnared the Nyoongar into clearing their own country. This in turn had the effect of alienating the Nyoongar from their forest country, their spirituality and traditional economies. The following account touches on Nyoongar clearing and the resulting destruction of Nyoongar old beliefs. The narrative begins with Cliff speaking with an old uncle.

Once you burn that tree it's gone. You see my uncle said to me, he was my grandfather's uncle, this wasn't a young man, this old fella he sat down and he said to me, 'Yarn noonook—kwoppiny ngoorniny?' ('How are you, are you sleeping well?')

'Oh yeah,' I said, 'I'm all right.'

'Well', he said, 'I thought you might be 'sturbed with something', he said to me, you see.

'No,' I said, 'Uncle,' I said, 'I'm all right', because I always call him uncle because he's my grandfather's uncle. That's how Nyoongars went, relations y'know?

The next mornin' I got up. Hey y'know what? I said, every night, since I've been here, I thought of that what you were sayin' to me, but I been 'sturbed.

I said, 'There's somebody cryin'. Woman cryin'.'

'Yok?' he said.

I said, 'Yeah.'

'Nartja waaliny?' ('What she cryin' for?')

'Gaabiny nartja' I said, 'I don't know what for,' I said to him.

'Oh well,' he said, 'benang', he said, this 'tomorrow mornin', 'benang, you see that old naal there yaarkiny?' he said. 'That's a stump, he (needs) dookeniny (burning). You light that old stump in the mornin', you see, it'll catch alight and burn him, that'll be the end, finish.'

An' so I got up early in the mornin', first bloody thing I got up I grabbed it, I grabbed a shovel and got a shovel full of coal and I tip it on the bottom of this big stump. Oh, he went like a candle, burnt up.

An' a next night, I lay down there, next mornin' —'Yarn you kwoppiny ngoornt?' ('You had a good sleep there?')

'Yeah, I never heard nothing,' I said. 'Last night that was finished,' I said.

'Well there you are,' he said, 'there was a kaarny (spirit) in that stump, an' you burnt that stump an' you burnt that spirit, it's gone.'

Cliff's personal anguish was that while he had treasured his time in the bush, working on the land of his people, he was in effect employed by the Wadjella, as were many Nyoongar, in its destruction. The destruction of Nyoongar lands eroded their traditional economy and forest spirituality, bringing them ever closer to being dependent on the Wadjalla landholder. **Rachel Humphries and Tim McCabe**

See also: Aboriginal labour; Aboriginal oral history; Forestry; Land clearing

O

Occupational diseases In Western Australia, the major diseases of occupation have occurred in the mining industry, specifically in gold and asbestos mining. Asbestos-related diseases have subsequently affected many other workers, including those in power stations, engineering workshops, maritime and waterfront work, and the building industry.

Gold mining commenced in the late nineteenth century, and within a few decades, as underground mining increased, it became apparent that miners were developing a disabling, often fatal, lung disease. It was recognised as due to the inhaling of fine free silica liberated from quartz during the drilling and crushing of ore to free the gold. Officially a pneumoconiosis, more specifically silicosis and often associated with pulmonary tuberculosis, the condition was commonly known as miner's phthisis. The disabling and fatal toll continued despite Royal Commissions in 1905, 1910, 1911 and 1925. Their recommendations led to the Mine Workers Relief Fund and Act, and mandatory initial and periodical medical examinations, which, after 1925, included a chest X-ray. Later, a *Workers Compensation Act* was enacted. Despite this, and recommendations to suppress dust and improve ventilation, there was little improvement in the rate of disease. An attempt to prevent absorption of silica by inhaling aluminium was well-intentioned, if misguided, intervention and failed. In the late 1950s and early 1960s, with better case finding of tuberculosis, and with fairly harsh isolation in the Wooroloo Sanitorium and later the Perth Chest Hospital (Sir Charles Gairdner) and treatment, this disease was no

longer a problem. Changed mining methods, mechanisation underground, forced ventilation and later the move to open-cut mining has also virtually eradicated silicosis.

Blue asbestos crocidolite mining commenced at Wittenoom in the Pilbara in the 1930s, and in 1943 operations were taken over by Australian Blue Asbestos, a wholly owned subsidiary of Colonial Sugar Refining. It operated until 1966, when poor fibre, return labour and transport problems, difficult markets, etc., forced its closure. During the life of the mine, production had gradually increased, and in 1948 government medical officer Dr Eric Saint predicted that the uncontrollable dust would produce an epidemic of lung disease. The Public Health Department made repeated and persistent complaints to the mining company and to the Mines Department, the only result of which was a rebuke from the Minister for Mines that responsibility for health in the mining industry was the Mines Department's only. In fact, the Public Health Department itself was narrowly preoccupied with the traditional public health concerns of sanitation and control of acute infectious diseases and, to a lesser extent, tuberculosis. It had no interest in industrial or occupational medicine until after the Second World War, and no occupational health division until 1959. From the 1950s onwards, however, it began to exercise some authority. The Public Health Department's annual report to parliament in 1959 expressed concern at the very dusty environment within and outside the mine, where 12 per cent of asbestos workers had developed lung disease after four years' exposure,

compared with one per cent of gold miners after ten years' mining. The lung disease was also much more severe and occurring at a relatively early age.

There was no significant improvement in conditions. Data collection continued, and in 1989 it was reported that out of 6,502 males and 400 females (the total of company employees from 1943 to 1966) exposed during the lifetime of the mine, 141 had developed lung cancer, 356 asbestosis and 94 malignant mesothelioma. Although this toll is tragic enough, a sad feature was that many of the women suffering from mesothelioma died at an early age, leaving young families; their only exposure had been from heavily contaminated mine tailings around their homes in the townsite. Many people recorded as employees worked for a very short time, but roughly one in every ten developed disabling and usually fatal disease. It was predicted the deaths from mesothelioma would continue until the year 2020 at a rate of twenty-five per annum.

There are many reasons why these industries continued to operate despite accumulating evidence of the health toll. Perhaps they lie in the laissez-faire attitude of an involved government, companies, unions, and even, to a degree, the miners. Ineffective legislation, poorly administered despite a caring inspectorate, has made control difficult, even impossible. As a post-script, while tribute has been paid to miners killed in mining accidents, there has been little recognition of the health effects outlined. **Jim McNulty**

See also: Asbestos mining; Gold; Public health; Sir Charles Gairdner Hospital
Further reading: L. Layman, 'The Blue Asbestos Industry at Wittenoom in Western Australia: A Short History', in D. W. Henderson, K. B. Shilkin, S-L. P. Langlois and D. Whitaker (eds), *Malignant mesothelioma* (1992); J. McCulloch, 'The Mine at Wittenoom: Blue Asbestos, Labour and Occupational Disease', *Labour History*, 47, 1 (2006)

Occupational safety Injuries and deaths at work have occurred, mainly in manual work, throughout Western Australian history. For most of the colonial period, investigations into workplace injuries were limited to coroners' inquests into sudden and accidental deaths. In the period of rapid demographic and economic growth in the 1890s and early 1900s, government attention was called to the increasing incidence of occupational injuries and deaths, the two industries of particular concern being mining and shipping. The *Mines Regulation Act 1895* was intended to improve safety by setting down requirements for the proper working of mines and establishing a mines inspectorate to enforce regulations. All serious workplace injuries had to be reported to enable mines' inspectors to investigate their nature and cause, and to require changes to prevent their recurrence. Nevertheless, the numbers of mining injuries and deaths rose rapidly as the industry expanded. In the ten years from 1896 to 1905 there were more than 390 deaths from injuries in Western Australian gold mining. Remarkable stories of survival after accidents also became common, that of the rescue after nine days trapped underground of Modesto Varischetti by Diver Hughes at Bonnievale in 1907 being one of the most notable.

The *Factories Act 1904* was the first attempt to improve safety, health and welfare in registered factories in WA. Previously, the *Health Act 1898* had been the only applicable legislation, but it proved inadequate. The *Factories Act* addressed the physical protection of employees, their age, and hours worked. Factory inspectors were empowered to carry out provisions applicable to factories in other Acts, such as Health and Machinery. The *Factories Act* only applied in gazetted industrial districts; the first included a major portion of the metropolitan area and then most parts of the South-West and East industrial districts. Two male inspectors and one female inspector were appointed. In the first year 473

factories were registered with a total of 6,126 employees.

The *Factories and Shops Act 1920* replaced both the *Factories Act 1904* and the *Early Closing Act 1902*. The focus remained the areas of machinery guarding, housekeeping, workspace, eating facilities, construction of factories, laundries, sweatshops and outworkers. Inspectors generally took a moderate approach: safety improvement was gradual, to avoid expense to the employer or even a short suspension of operations while structural alterations were undertaken. Cleanliness was addressed more speedily.

This legislation was written primarily as an enforcement tool, not to prevent injury to workers. In 1963 a revolutionary *Factories and Shops Act* was implemented. Like earlier legislation it was based on the English model. For the first time the Act set out the qualifications required by inspectors. The 1963 regulations were still prescriptive and registration of factories and shops was considered important to ensure that inspections and their results could be tracked. The punitive power was a fine or, as a last resort, the deregistration of the factory or shop.

In 1970–72 Lord Robens chaired a landmark British government committee into Safety and Health at Work, recommending a self-regulatory approach to reducing injury in the workplace. This approach was followed in the *Occupational Safety and Health Act 1984*. In practice, however, legislators and responsible agencies did not fully accept the change; nor was it encouraged within the community. Amendments to the Act and Regulations from 1996 fostered a prescription- and approvals-based framework to enforcement.

Further legislation to bring about major changes in occupational safety and health laws took effect in 2005. The *Occupational Safety and Health Act 1984* and the *Mines Safety and Inspection Act 1994* were amended to align both Acts as they related to improvement and prohibition notices, to increase financial penalties and to include gross negligence for individuals. A conviction for gross negligence could lead to a gaol term. The new-style legislation was designed to achieve greater self-regulation in the workplace. Legislators and enforcement agencies provided the basic guidance related to accepted community standards; the workplace environment adapted or changed to ensure at least minimum employee safety, and health requirements were met. Self-regulation put greater onus on employers and employees to accept a duty of care and thus to design and implement the standards and behaviour acceptable for their work environment. **Bob Elkington**

See also: Occupational diseases; Work, paid; Workers' compensation

Further reading: D. K. Dans, *Occupational health, safety and welfare legislation: A public discussion document* (1983); R. Laing, *Report of the enquiry into the operations of the* Occupational Health, Safety and Welfare Act 1984 (1992)

Occupational therapy (OT) is a profession founded on an age-old belief that engagement in occupation benefits health. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. According to the World Federation of Occupational Therapists, occupational therapists achieve this outcome by enabling people to do things that will enhance their ability to participate or by modifying their environment.

In Australia, the profession of occupational therapy was born during the Second World War, when the Australian military recognised the need for occupational therapy treatment for returned servicemen and -women. They supported the establishment of a course that began training therapists in Sydney in 1942. Occupational therapy was recognised as an important adjunct to rehabilitation and was first practised in Western Australia that same

year, at the 110th Military Hospital, which in 1947 became the Repatriation General Hospital, Hollywood. Occupational therapy departments were opened during the late 1940s, the first at the Wooroloo State Sanitorium, and, in 1947, within the Rehabilitation section of the Department of Social Services. Mental Health Services employed the first trained occupational therapist in 1948. Towards the end of 1950, a department opened at the Crippled Children's Association and a year later at Princess Margaret Hospital for Children.

In July 1949 the three occupational therapists practising in WA formed the Occupational Therapist's [sic] Club, the forerunner of the present day OT Australia WA. The group was formally constituted in November 1952, accepted the following year into the federal body and held its inaugural meeting in October 1953. Lobbying of MPs to set up a training school and to register occupational therapists by Act of Parliament had already begun. Four years later, the *Occupational Therapists Registration Act 1957* became law in WA. The newly formed Occupational Therapists Registration Board of WA approached Royal Perth Hospital requesting facilities for a school, which opened in February 1961 with nine students. Prior to this, therapists had been recruited from interstate or overseas. In 1969 the school transferred to the WA Institute of Technology (now Curtin University of Technology), offering graduate and post-graduate education in occupational therapy. Over the years the number of graduates has increased and, due to current demand, a second course began at Edith Cowan University in 2006.

Occupational therapy departments and services were gradually established in all metropolitan hospitals, institutions and population health services, to service all age groups and all levels of injury and illness. Similarly, services in rural areas developed to meet demand. Interest groups based on occupational therapy specialty areas, including a large private practitioners' group, were formed. Currently, occupational therapists work in rehabilitation and acute care settings, in workplaces and heavy industry, schools, local government, urban and rural community and residential services, and in private practice, in a general or specialised capacity.

Today there are well over 1,200 registered occupational therapists in WA, 38 per cent of whom work in the public health sector. Approximately 95 per cent are female. Occupational therapists have always responded to the changing needs of society, both within a medical context and the wider community. The central belief of practitioners, that occupation can be used therapeutically to rehabilitate and promote health and well-being, remains unchanged. **Ann Whyntie and Adina Quattrini**

See also: Curtin University of Technology; Mental health; Princess Margaret Hospital; Repatriation hospitals; Royal Perth Hospital
Further reading: B. Anderson and J. Bell, *Occupational therapy: its place in Australia's history* (1988); A. M. Hardie, *A history of the profession occupational therapy in Western Australia* (1972)

Oil and gas exports make a major contribution to Western Australia's export market. Exploration has been undertaken throughout the state for more than a century, but significant finds were not made until the 1960s. Exploration began at Warren River in the South-West in 1902. On 8 January 1913 Walter Winfred was granted permission to explore off Albany, provided the activity did not disrupt the port and long-established whaling community. The licence covered waters west of a line running due south from Point Frederick to Grave Head (formerly Stuart Head). Exploration of the Canning Basin began in 1922 after oil was found in water bore samples in 1919. The Freney Kimberley Oil Company explored the region from 1922

to 1948. The area is extremely remote, but in 1924 Albert Edward Broué also explored the region by motor vehicle. The Freney Kimberley Oil Company expanded the area for exploration and the government geologist, Arthur Wade, began to map the Kimberley region for the company in 1934. The Second World War interrupted much of the exploration, and Australia's first commercial postwar oil survey took place in the Canning Basin in 1946 by Frome-Broken Hill.

The first successful exploration for oil was by West Australian Petroleum Pty Ltd (WAPET 1952–2000, now ChevronTexaco) on the Exmouth Peninsula. To the astonishment of the crew, they struck oil on 5 September 1953, drilling the first test hole, Rough Range 1. Despite the excitement generated across Australia and an estimated 70,000 barrels of oil, it was of little consequence. The first significant discovery of oil was again by WAPET, at Barrow Island in 1964, with production beginning in April 1967. Originally the field had an expected thirty-year life span, but due to developments in technology and the development of the Gorgon field, located off Barrow Island, this estimate now extends beyond 2025. Another WAPET find was the Dongara gas field north of Perth in 1966, which began production in 1971 and is still in operation.

Also in 1971, Woodside Energy, which had been awarded exploration rights in 1963, discovered oil and gas off the north-west coast of the Pilbara. First, Scott Reef north of Broome, followed by the North Rankin and Angel, north of Dampier. In 1972 the Goodwyn field was discovered to the west of North Rankin. These discoveries led to the creation of Australia's largest single investment project, the North West Shelf Project (NWSP), costing more than A\$12 billion to construct, with further expansion taking it to A\$15 billion by 2006.

Exploration suffered badly when the Whitlam federal Labor government (1972–75) removed the substantial tax incentives used to encourage exploration. This led to a significant reduction in exploration in WA. However, in 1976 Premier (later Sir) Charles Court instructed the State Energy Commission of Western Australia (SECWA) to calculate demand for gas as a primary energy source for the South-West of the state. The study found the state would benefit from using gas as a much cleaner fuel to generate electricity than coal, and a contract for the supply of gas was signed in 1980.

In June 1979 the petroleum division of the Amax Iron Ore Company attempted to drill for oil on the Aboriginal-owned Noonkanbah Station near Fitzroy Crossing, but the community refused to allow drilling to take place near sacred sites. In August 1980 the state government annexed the road through Noonkanbah land and a police escort took the Amax team to the site to drill Fitzroy River 1. Ultimately, no oil was found and the episode became known as the Noonkanbah Affair.

The 1980s saw many projects move from the design phase to production. On 4 June 1982, Woodside's North Rankin A was located in 125 metres of water, the deepest water in which any fixed-bed production platform had ever been placed. On 1 July 1984 the first gas was piped ashore, and the first domestic gas deliveries arrived in Perth on 16 August that year. Other major developments in the region followed, such as the Goodwyn Alpha, Wanaea/Cossack, Griffin and Wandoo.

The gas pipeline from the North-West was also constructed in the early 1980s. Running from Dampier to Bunbury, it is, at 1,500 kilometres, one of the longest gas pipelines in the world. A second gas pipeline was completed in 1996 and runs via the interior of the state to Kalgoorlie/Kambalda. This pipeline has subsequently been extended from Kambalda to Esperance.

The single most important contract for the industry in WA was signed in 1985. It was for the NWSP to supply Liquid Natural Gas (LNG) for twenty years to eight Japanese utility companies with 65 million customers.

The first delivery of domestic gas was on 28 July 1989 and the 1500th LNG cargo in July 2003.

Recent discoveries and ongoing exploration by many companies throughout the state will see the industry grow strongly in the foreseeable future. This fact, coupled with steady demand from the export market for LNG, will see more contracts such as the one signed by the NWSP with China in 2002, worth A$25 billion over twenty-five years. While reserves remain, WA will continue to be seen as one of the major developers and exporters of LNG in the world. **John Holt**

See also: Energy, sources and uses; Geology; Kimberley; Noonkanbah dispute; Pilbara
Further reading: T. Filkin, 'West Australian Petroleum Pty Ltd. The Early Years: 1952–1967', in F. Broeze (ed.), *Private enterprise, government and society: Studies in WA History*, 13 (1992); R. Murray, *From the edge of a timeless land: a history of the North West Shelf gas project* (1991); Western Australian Petroleum Pty Ltd, *The Wapet story* (1957); R. Wilkinson, *Where God never trod: Australia's oil explorers across two centuries* (1991); The Australian Petroleum Production and Exploration Association, www.appea.com.au

Opera Operatic piano transcriptions were part of the first settlers' cultural baggage, nostalgically reminding them of 'home' in the harsh environment of the Swan River Colony. In 1831, lawyer and farmer George Fletcher Moore recorded in his diary hearing excerpts of Mozart's *Don Giovanni* being played at the home of local merchant Mr Leake, and in 1846 Dom Rosendo Salvado played excerpts of Bellini's *Norma* to raise funds for his mission at Moore River.

The first complete opera performance was Gilbert and Sullivan's *HMS Pinafore*, performed by the visiting South Australian Hyperian Opera Company in 1881. Its five performers were augmented by locals, and after Perth they toured north to Champion Bay (now Geraldton). They were followed in 1885–86 by the H. Stanley Opera Bouffe Company, which had already successfully toured around Australia and New Zealand. They brought more Gilbert and Sullivan and current comic operas and then toured rural areas before departing for Singapore. Towards the end of the century, European immigrants intent on making their fortunes at Kalgoorlie and Coolgardie staged makeshift opera as a means of entertainment in the goldfields.

Despite Perth's geographical isolation, opera audiences were kept well informed of current international productions and singers through newspapers, journals and the importation of acoustic recordings. The opening of His Majesty's Theatre in 1904 also provided an appropriate operatic stage and encouraged international singers and touring companies to include Perth in their schedules. Count Ercole Filippini and his wife visited Perth in 1927 with their Italo-Australia Grand Opera Company, and then formed the Western Australian Grand Opera Company (1928–32). In 1928 the Melba-Williamson Company concluded its third Australian tour by giving eighteen performances of eleven operas to packed houses at the Maj. *Turandot*, seen in Perth during this season, had been premiered in Milan as recently as 1926.

In 1947 the WA Opera Society, under the direction of Dr Hans Briner, staged *Hansel and Gretel*, followed by *The Marriage of Figaro* and *Tales of Hoffman* in 1948, and *La Traviata* and *Die Fledermaus* in 1949. Unfortunately the Society was split, owing to dissension regarding its amateur status and future programming. Briner resigned following an unsuccessful *Don Pasquale* in 1950, and after the newly formed dissenting Studio Opera's *Magic Flute*, both companies closed down. Dr Rudolf Werther, Cultural Director of the Cottesloe Civic Centre, staged open-air productions of *Orpheus* in

1952 and *Il Seraglio* in 1953. Cold nights and lack of sufficient support put an end to this venture.

In 1966–67, Italian tenor Giuseppe Bertinazzo was the driving force behind the establishment of Perth's first permanent opera company, now known as West Australian Opera (WAO). The successful first season began with *Carmen* and *Amahl and the Night Visitors* in 1968, followed by *Faust* and *La Bohème* in 1969. In 1970, Viennese-born Georg Tintner was appointed the company's musical director. Successful productions meant his two-year contract was extended to 1974. Unfortunately, artistic triumphs were undermined by financial disasters, and after an acrimonious AGM in 1976, the Company was restructured and administrator/musician Vincent Warrener was appointed general manager.

In 1971–73, WAO combined with the Australian Opera for performances of *A Masked Ball* (sung in Italian) and *The Marriage of Figaro*. The box-office failure of the former verified that Perth audiences were not yet ready for unfamiliar works sung in their original language. In 1980 WAO moved into its present premises in the refurbished His Majesty's Theatre. A Young Artists Program gives talented vocal students the opportunity to perform minor roles with the company, and since 2003 WAO has been committed to three mainhouse productions and an Opera in the Park annually.

Premieres for the Festival of Perth (now Perth International Arts Festival) have featured prominently in the state's operatic history, including *Dalgerie*, based on Mary Durack's *Keep Him My Country* in 1959, and WAO co-productions of *Bride of Fortune* in 1991, *Heloise and Abelard* in 1993, *The Burrow* in 1994, and Richard Mills' *Batavia* in 2004.

A number of professional and semi-professional companies have staged productions over the years. However, only WAO has survived the vicissitudes of artistic and economic enterprise. This is due to government funding and corporate sponsorship; box-office support from an informed audience; the introduction of surtitles in the 1990s, and the expertise brought to the company over the past decade by its artistic director, composer/conductor Richard Mills. Also, membership of the Opera Conference, a consortium of Opera Australia and state companies funded through the Australia Council, enables WAO to access new productions.

Excellent vocal tradition, instigated by singers such as soprano Molly McGurk, has informed the state's operatic tradition. Tertiary institutions, namely The University of Western Australia's School of Music and the WA Conservatorium of Music (now WA Academy of Performing Arts), offer degree as well as diploma courses in voice. In 2002, baritone Gregory Yurisich opened the Australian Opera Studio, but despite its successes, lack of financial support forced its closure in 2008. Institutions such as these, however, contributed to a standard of excellence in operatic output on local, national and international levels. **Annie Patrick**

See also: Festival of Perth; Music; Music festivals; Opera, amateur; WA Academy of Performing Arts

Further reading: K. Brisbane (ed.), *Entertaining Australia: An illustrated history* (1991); D. Hough, *A dream of passion–the centennial history of His Majesty's Theatre* (2004); A. H. Kornweibel, *Apollo and the pioneers* (1973)

Opera, amateur Amateur operatic societies often flourished in Perth and the larger rural centres for a while, but then passed into oblivion, or after a time resumed activities with a new name. Francis Hart introduced Gilbert and Sullivan's *Trial by Jury* to Western Australian audiences in 1887, while director of the Geraldton Musical Union. Upon moving to Fremantle he formed the Perth

Amateur Operatic Society in 1890, and some of the colony's most prominent citizens were involved in its annual productions.

The Kalgoorlie Operatic Society began in 1903 and soon gained an enviable reputation for the standard of its performances. During the First World War, productions by the Metropolitan Opera Company, under the direction of May Marrie, helped to raise funds for the troops abroad. Peter Roxby was one of the founders in 1918 of the Perth Operatic Society, which presented popular comic operas throughout the 1920s. The West Australian Society of Concert Artists also gave excellent performances of Gilbert and Sullivan and musical comedies.

A number of regional theatre groups that are still active have a long history, and include light operas or musicals in their repertoire. Examples are the Goldfields Repertory Club (incorporated in 1931), Albany Light Opera and Theatre Company (which flourished from 1934 to 1939 and was re-formed in the 1960s), and Bunbury Musical Comedy Group (1960). The Esperance Theatre Guild (1967) normally has four theatrical productions each year, including one musical, while the South West Opera Company (based in Bunbury) has enjoyed continued success since 1986.

Bernard Manning, formerly a singer with the D'Oyly Carte Opera Company in England, initiated the Gilbert and Sullivan Society of WA in 1951. Together with its concert group The Savoy Singers (1992), the society has ensured the continuing local popularity of the Savoy operas by mounting several productions each year. **Jean Farrant and John A. Meyer**

See also: Music; Opera
Further reading: B. Coackley, *Encore! Encore! A continuation of the history of Gilbert and Sullivan in Western Australia, 1893–1899* (1995); B. Coackley, *The first forty years: the history of the Gilbert and Sullivan Society of W.A. Inc. 1951–1991* (1994); B. Coackley, *The Gilbert and Sullivan Society of W.A. Inc.:* *a history of the 5th decade, 1992–2001* (2003); B. Coackley and J. Gooding, *Ring up the curtain: a short history of Gilbert and Sullivan in Western Australia, 1879–1892* (1992)

Oral History Association Oral history had been collected by the Battye Library under Mollie Lukis since 1961, following her study tour to the US and UK in 1957–8. This was Australia's first library-based oral history program. In 1975 the Library Board of WA approved funding for three positions, two interviewers and one transcriber. This motivated Jean Teasdale to establish a national Oral History Association of Australia [OHAA] in 1978. An inaugural meeting was held in July that year at The University of Western Australia with the committee recruited by Teasdale including eleven interstate members. The WA branch was formed in March 1980. The National Secretariat was held by WA until 1981, when a roving secretariat was established.

From early close liaison with the Battye Library, OHAA (WA) increasingly acted independently, running training courses, workshops and seminars, publishing a quarterly newsletter as well as a training video, and hiring out equipment for interviewing and transcribing. Between 1983 and 1996 the OHAA (WA) sponsored an Oral History prize. The first year it was open to all ages, and from then on for youths aged under eighteen years, in some years attracting up to two hundred entries. An annual conference has alternated between Perth and regional centres.

The OHAA (WA) has a substantial wide-ranging membership, including academics, students, independent contractors, local study groups and historically allied institutions. Emphasis is placed on the practice and methods of oral history, and members are advised to place their work/s in the Battye Library Oral History Collection, which contains 135

years of memories and interviews with over 7,000 people. **Margaret Hamilton**

See also: Battye Library; Historical records; Libraries

Further reading: B. M. Robertson, 'Long desperate hours at the typewriter: establishing the Oral History Association of Australia', in *OHAA Journal*, no. 30, 2008.

Orchestras, amateur Amateur orchestras were an important part of community life in Perth and the larger rural centres of Western Australia from the 1890s onwards, even though they often had a short or intermittent life, being dependent on the availability of able leadership. However, the Fremantle Orchestral Society (1887–1952) survived for many years, mainly through the enthusiasm and dedication of its two main conductors, C. L. Clifton and E. E. Butson. The Metropolitan Orchestral Society, started by A. J. Leckie in 1913, was active until the ABC's Perth Symphony Orchestra took the leading role as the city's professional orchestra from the mid 1930s. Of the more prominent orchestras in the suburbs of Perth, the West Guildford Orchestral Society started in 1913, while the Commercial Travellers' Association Orchestra (begun by M. H. J. Otto in 1927) gave regular concerts until the outbreak of the Second World War. In 1953 Frank Callaway formed the University Orchestral Society to enable university students and other players to study, practise and perform music that was not well known at that time.

Some orchestras cater for performers on particular instruments. For example, the WA Mandolin Orchestra was started by Robert Schulz in 1976 as only the second such orchestra in Australia, while the Allegri Chamber Orchestra (2000) is essentially a string orchestra. It is, however, sometimes difficult to trace the history of community orchestras because of frequent name changes—for example, the Melville Symphony Orchestra

(1961), which migrated to Nedlands in 1981, then in 1993 became the City of Fremantle Orchestra.

Besides providing amateur musicians with opportunities for playing in public concerts, community orchestras often raise funds for charitable causes. Among such orchestras are a later Metropolitan Symphony Orchestra (1978), Hills Symphony Orchestra (1981), and Churchlands Community Orchestra (1982). The Albany Sinfonia (1996) is an example of a country orchestra that fulfils an important community role by working in conjunction with other music societies in the district. **Jean Farrant and John A. Meyer**

See also: Music; Music clubs and societies; Music Council of Western Australia; Music, tertiary education; West Australian Symphony Orchestra

Ord River scheme The Ord River, located in the East Kimberley, has a strongly seasonal flow, with huge floods occurring in wet years. The Miriuwung and Gajerrong people observed traditional laws and customs in the area for generations before the arrival of Europeans. In 1879, explorer and Crown Surveyor Alexander Forrest named the river after Governor Ord and reported that twenty-five million acres in the East Kimberley would be suitable for pastoral and agricultural experiments.

As a result of Forrest's reports, an influx of cattlemen from the eastern colonies brought their stock overland to settle the district. By the 1890s, with a slump in the pastoral industry, the Western Australian government began to examine schemes for tropical agriculture.

It was not until the late 1930s, with a proposal to settle the Kimberley by a group of Jewish refugees from Europe, that interest in the Ord River district as a site for tropical agriculture was revived. The Commonwealth government's rejection of the proposed

scheme saw renewed state government interest in the area. The main aim was to use irrigated agriculture to assist the ailing pastoral industry. Kim Durack (a member of the Durack pastoralist family), a graduate from Muresk Agricultural College who was working on cattle stations in the East Kimberley, became actively involved in promoting the idea of a research station in the East Kimberley. In 1940 he accompanied R. J. Dumas, newly appointed Director of Works, in exploring the Ord River for possible dam sites. In 1941 Durack was appointed to manage the agricultural research station established on the eastern bank of the Ord at Carlton Reach. A soil survey in 1944 established that 80,000 acres could be irrigated in the district and, as the soils chosen for the original experimental site were not typical of the area, in 1945 the Kimberley Research Station was established further upstream, to be jointly administered by the Council for Scientific and Industrial Research (CSIR).

In 1955 the Western Australian government sought Commonwealth funding for the development of the Ord, arguing that a scheme for the area would be a vital part of the national effort to encourage settlement in Australia's northern areas. In 1957 Commonwealth funding of £2.5 million was provided for northern development in WA. A federal election campaign in the following year saw this grant doubled, despite the lack of any detailed research or plans for northern development projects. However, the prospect of losing the grant money meant that the Ord River Irrigation Project was put forward, despite a lack of definitive scientific information.

The project comprised three stages, each dependent on Commonwealth funding provided at the time of an election. The first stage involved the construction of a diversion dam, downstream from the proposed major dam site, the irrigation of approximately 10,000 hectares of land and the creation of a town, Kununurra, to serve the area. The second

stage saw the construction of the main dam and the creation of Lake Argyle and irrigation works for the remaining 50,000–60,000 hectares. The third stage was the construction of a hydro-electric power station on the main dam and the reticulation of power.

The scheme was initially seen as a way to assist the pastoral industry, however, initial yields of fodder crops were unsatisfactory, as were rice and safflower trials. Cotton was chosen as a crop that had some chance of financial viability, with the assistance of Commonwealth cotton bounty payments. However, the crop was abandoned in 1974 in the face of increasing costs of insect control, transport and marketing.

The Ord River scheme now utilises 14,000 hectares of land for the production of a diverse range of crops including seeds, nuts, sugar and horticultural crops such as melons, mangoes and vegetables. There are plans for the expansion of the scheme with the construction of a second main irrigation channel and the opening up of a significantly increased area of irrigated land, spreading into the Northern Territory. **Sue Graham-Taylor**

See also: Agriculture; Jewish settlement, Kimberley; Kimberley; Kununurra; Pastoralism
Further reading: B. R. Davidson and S. Graham-Taylor, *Lessons from the Ord* (1982); L. Gettler, *An unpromised land* (1993)

Oriental Orthodox churches in Western Australia are Armenian, Coptic, Ethiopian and Syrian (Arameans). They abide by the recommendations of three Ecumenical councils and practise the Church's seven Holy Sacraments. Their adherents in WA numbered 1,121 at the 2006 census.

The Syrian Orthodox Church was founded by St Peter in the Roman capital of Syria, Antioch, where the term 'Christian' is said to have been first used. The first eleven members of the Syrian Orthodox Church arrived in Perth in 1971. The growing

community received an Apostolic visit from HH the Patriarch over two days in January 1987, when the first Syriac Holy Mass was held in Perth. As a result of this visit, the first appointed priest, V. Rev. Fr Boutros Issa, arrived in Perth in 1989 to voluntarily serve the Syrian Orthodox Community.

The Coptic Church was founded by St Mark in Alexandria, Egypt. Copts began to migrate to WA more than half a century ago. The Coptic Church held its first mass in 1975 and received its first Episcopal Visit in the following year. Several priests took over the responsibility of serving this community in Perth, and there are currently two churches north and south of the Swan River. Fr Abram Abdelmalek has been the parish priest for the Coptic Church in East Victoria Park since 1996, and in 2006 Rev. Fr Polycarpos was the parish priest for the Coptic Church in Wanneroo.

Although Saint Bartholomew called for Christianity in Armenia and Ethiopia in the first century, the Armenian and the Ethiopian Churches were not officially founded until the fourth century. The Ethiopian Church also has a presence in Perth, and on 12 December 2002 Fr Tsagai arrived in Perth to serve the community as it grew in number. A property was acquired to establish a church in Perth.

Although there are about 120 Armenian families in WA, they have no church of their own, but currently have use of St Hilda's, North Perth, for worship. **V. Rev. Fr Boutros Touma Issa and Theodora Issa**

See also: Spirituality and religion
Further reading: M. Attia, *Coptic Orthodox Church of Australia 1969–1995* (1995)

Ornithology Considering its large size, Western Australia has a relatively small avifauna, the 562 species recorded for the state including 385 breeding species, 160 non-breeding visitors and 17 foreign or introduced species.

Sixteen species are endemic to the state, namely: Carnaby's Cockatoo (*Calyptorhynchus latirostris*); Baudin's Cockatoo (*Calyptorhynchus baudinii*); Western Long-billed Corella (*Cacatua pastinator*); Red-capped Parrot (*Purpureicephalus spurius*); Western Rosella (*Purpureicephalus icterotis*); Noisy Scrub-bird (*Atrichornis clamosus*); Red-winged Fairywren (*Malurus elegans*); Black Grasswren (*Amytornis housei*); Western Bristlebird (*Dasyornis longirostris*); Dusky Gerygone (*Gerygone tenebrosa*); Western Thornbill (*Acanthiza inornata*); Western White-naped Honeyeater (*Melithreptus lunatus chloropsis*); Western Spinebill (*Acanthorhynchus superciliosus*); Western Little Wattlebird (*Anthochaera lunulata*); White-breasted Robin (*Eopsaltria georgiana*); and Red-eared Firetail (*Stagonopleura oculata*).

Although WA had been visited by European navigators since early in the seventeenth century, little was learned of the birds before European settlement. The most important accounts left by early travellers and navigators are the anecdotal accounts of the Swan River by the Dutchman Vlamingh (1697), accounts by the Englishman Dampier in 1688 and 1699 (which contain references to several recognisable species and the first illustrations ever published of Australian birds), and observations and collections made by French and English expeditions under the command of Nicolas Baudin (1801–03), Matthew Flinders (1801–03) and Phillip King (1818–20).

On behalf of John Gould, the English ornithologist John Gilbert visited the Swan River Colony in 1839 and 1842–43. He worked mainly around Perth but also made observations and collections in the Wongan Hills, Toodyay and York districts, also between Perth and Augusta and between Albany and Perth and on the Houtman Abrolhos. Gilbert's work, along with some additional observations and specimens from James Drummond, Johnston Drummond, G. F. Moore, L. C. Burges and other pioneers, give us a fairly good picture

of the avifauna of the south-west region in its pristine condition. The period between the late 1880s and early 1900s was also a very active period for ornithological discovery, with the arrival or visits of several overseas and eastern Australian ornithologists, notably in the south: T. Carter, O. H. Lipfert, A. W. Milligan, H. E. Hill, F. L. Whitlock, G. C. Shortridge and A. C. Crossman; and in the Kimberley: T. H. Bowyer-Bower, K. Dahl, G. A. Keartland, J. T. Tunney, F. M. House, J. P. Rogers, G. F. Hill and R. Söderberg. The natural history section of the Perth Museum was established in 1892.

In 1912, W. B. Alexander, a pioneer of modern ornithology, joined the Western Australian Museum and vigorously expanded its bird collections, organised museum displays along more modern lines, and stimulated scientific research and field studies. Alexander's methodology directly stimulated the young D. L. Serventy, who in turn helped train the present generation of Western Australian ornithologists. In 1948 Serventy and Whittell published their *Birds of Western Australia*, which did much to stimulate general interest in the birds of this state.

The last half-century has witnessed a huge resurgence in fieldwork, especially in the tropical north, deserts, seas, coasts and wetlands, and in that time over one hundred species and many subspecies have been added to the state list. At the same time, the classification of the birds has been improved and the distribution of species and subspecies better defined. Much of this intensive fieldwork and study was carried out by the WA Museum, often in concert with the Fisheries and Fauna Department (now Department of Environment and Conservation). Valuable ecological work was also done by the CSIRO and a number of extensive research projects were undertaken by universities, especially by Murdoch University staff, Birds Australia and the Western Australian Naturalist Club. Some major contributors during this period are G. F. Mees, G. M. Storr, W. H. Butler, J. R. Ford,

I. Abbott, J. Dell, D. J. Saunders, I. Rowley, A. H. Burbidge, J. C. Darnell, M. Morcombe, E. H. Sedgwick, J. N. Dunlop, R. D. Wooller, J. L. Long, N. Kolichis, P. Stone, G. A. Lodge, L. A. Smith and R. E. Johnstone. The end result is that WA is the only state with a high-quality, comprehensive published treatment of its avifauna. **R. E. Johnstone**

See also: British maritime exploration; Dutch maritime exploration; Environment; French maritime exploration; Scientific literature; Scientific societies

Further reading: R. E. Johnstone, *A history of ornithology at the Western Australian Museum 1892–2007* (2007); R. E. Johnstone and G. M. Storr, *Handbook of Western Australian birds* (1998, 2004); D. L. Serventy, *History of zoology in Western Australia* (1978, 1986); G. M. Storr and R. E. Johnstone, *Field guide to the birds of Western Australia* (1979)

Orphanages were institutions for children, first built in Western Australia during the late 1860s and early 1870s, mainly for destitute children of European descent, not all of whom were orphans. Most destitute children were sent from the Perth Poor House to the orphanages. The colonial and later state governments provided a weekly allowance for orphans or the children of destitute parents held in all orphanages. In the nineteenth century, these institutions also accepted children whose parents were able to pay for their keep for limited or extended periods. For example, a man whose wife had died sometimes arranged to send his children to an orphanage and agreed to make regular payments. The Anglicans opened the Swan Protestant Orphanage near the Causeway in 1868 and shifted the boys into a separate establishment at Middle Swan in 1876. In 1871 the Catholic Church set up the St Joseph's Girls' Orphanage, while the St Vincent's Boys' Orphanage at Subiaco was established in 1872 and moved to Clontarf in 1902.

These orphanages were officially designated 'industrial schools' after the passage of the *Industrial Schools Act* of 1874. This Act gave the managers the power to control the lives of the children until they attained twenty-one years of age and to send them out to labour. The *Industrial and Reformatory Schools Act* of 1893 further systematised the treatment of children in state support, including those in orphanages. As well as dealing with children convicted of crimes, the Act defined six categories of children in the community, who were regarded as 'neglected' and who could be apprehended, taken before justices and detained in an orphanage 'for such time as the justices think proper, but not in any case exceeding the time when the child will obtain the age of eighteen years'.

While the 1874 Act also controlled Aboriginal children in missions, including New Norcia, this was superseded by the *Aborigines Act* of 1905, which placed all Aboriginal children under the control of the Chief Protector of Aborigines.

The *State Children Act* of 1907 repealed the 1874 and 1893 Acts and set the pattern for child welfare provisions for children of European descent until after the Second World War. According to the preamble to the 1907 *State Children Act*, orphanages were 'for the detention, maintenance, training, education and employment of destitute and neglected children'. The orphanages listed in this Act included the four nineteenth-century institutions and the Children's Home, Parkerville, set up in 1902 by the Anglican Sisters of the Church. This had first received regular funding from the state as an orphanage in 1905.

In 1927 the *State Children Act Amendment Act* changed the name of both the Act (now to be called the *Child Welfare Act*) and the Department. The major clauses of the Act remained as set out in the 1907 Act, but henceforth 'State children' were to be called 'wards', and the 'State Children Department' the 'Child Welfare Department'.

The appendix of this 1927 amendment Act reveals the establishment of many more institutions for children, which were to come under the control of the newly named Child Welfare Department. They included St Joseph's Roman Catholic Orphanage, Subiaco; Church of England Girls' Orphanage, Adelaide Terrace, Perth; Salvation Army Girls' Home, Cottesloe Beach; Swan Boys' Anglican Orphanage, near Midland Junction; Clontarf Roman Catholic Orphanage, near Victoria Park; Salvation Army Boys' Home, West Subiaco; Seaforth Salvation Army Boys' Home, Gosnells; Methodist Children's Home, Victoria Park; St Vincent's Roman Catholic Foundling Home, Subiaco; The Children's Home, Parkerville.

In 1947 the *Child Welfare Act* was again changed and the whole Act resubmitted to parliament for consolidation. There were now nine clauses defining 'neglected' children who, if brought before the court and so defined, were sent to an institution. The number of subsidised institutions began to grow after the Second World War so that eighteen were listed in the Child Welfare Report for the four years ending in 1951, only three of which were called 'orphanages', a term now seldom used.

After the passage of the *Community Welfare Act* of 1972, the Departments of Native Welfare and of Child Welfare were amalgamated to become the Department of Community Welfare, thus placing the care of Aboriginal and European children under one department for the first time since the 1874–1905 period. The name of the department was later changed to the Department for Community Services and then to the Department for Community Development.

From the 1960s onwards, large institutions gradually closed down or were transformed into farm schools and the nomenclature changed so the word 'orphanage' was no longer used. Both departmental and non-government organisations now provided reception, assessment and treatment centres

for children in difficulty at school or before the law. The Child Welfare Report for the year ending 1972, for example, provided information about the placement of children in private institutions including the Holly-wood Children's Village; Catherine McCauley Centre; Kingsley Fairbridge Farm School; Maria Goretta Home, Broome; Mofflyn Methodist Cottage; Nazareth House, Gerald-ton; Ngala Mothercraft Home and Training Centre; Parkerville Children's Home; Sister Kate's Children's Home; Wanslea Children's Home; Withnell House Girls' Homes; Hillcrest Hospital; and Salvation Army Girls' Home.

In spite of the increasing number of mainly small institutions, the report reveals that two-thirds of the children 'assessed' were returned to their parents or guardians, were fostered or were placed in private board. According to this report, in 1972 there were 1,680 children being cared for by foster parents, of whom 1,342 were subsidised. In the last two decades of the twentieth century, services for children in need increased gradually, become much more decentralised and more depend-ent on local initiatives. There are now more professionals in the service, but also more volunteers. **Penelope Hetherington**

See also: Aboriginal legislation; Children; Ngala; Poor houses; Reformatories; Stolen generations

Further reading: B. M. Coldrey, *The scheme: the Christian Brothers and childcare in Western Australia* (1993); A. Haebich, *Broken circles: fragmenting indigenous families, 1800–2000* (2000); P. Hetherington*, Settlers, servants and slaves: Aboriginal and European children in nineteenth-century Western Australia* (2002)

P

Pacifism has rarely been a significant force in Western Australia. During the 1916 and 1917 anti-conscription campaigns, the Australian Freedom League gained little public support in WA. But during the interwar period, Christian- and Labor-inspired peace groups contributed to the strong anti-war sentiment of the era, including a Peace Demonstration in Perth on Armistice Day 1928. The major peace church, the Society of Friends (Quakers), was established in WA in 1930. When military conscription was enforced during the Second World War, of possibly five thousand conscientious objectors Australia-wide, about ten per cent were Western Australians. Some served prison terms for refusing to enlist. Others opted for civilian service, including fire spotting in the South-West. Post-war, branches of the Fellowship of Reconciliation and the Women's International League for Peace and Freedom operated sporadically, along with Pacifist Fellowship of WA (1964), Save Our Sons (c. 1966) and the Draft Resisters Union (1971); all were opponents of Australia's involvement in the Vietnam War, though not all specifically pacifist. The anti-Vietnam Moratorium marches in the late 1960s and early 1970s drew increasingly large crowds in Perth. On 30 June 1970, for example, in one of the largest demonstrations against the Vietnam War, Labor leader John Tonkin led five thousand marchers through Perth. After the Vietnam War, pacifists opposed nuclear weapons and uranium mining. Four thousand people rallied to the first demonstration against the mining and exporting of uranium held in Perth on 3 April 1977. People for Nuclear Disarmament staged annual Palm Sunday peace rallies from 1983. In 1985 the movement had gathered pace and an estimated thirty thousand people marched through Perth. Peace activist Jo Vallentine represented WA in the Senate 1990–92. Opposition to Australia's involvement in the Iraq War from 2003 suggests that pacifist sentiment may be stronger today than half a century ago. **Bobbie Oliver**

See also: Anti-nuclear movement; Conscription; Gulf Wars; Peace movement; Vietnam War

Further reading: M. Brown, 'Western Australians and the world: anti-war organizations as a case study, 1919–1939', Masters thesis, UWA (1981); Federal Pacifist Council of Australia, *The Peacemaker* (1939–1971); B. Kearns, *Stepping out for peace: history of CANE and PND (WA)* (2004); B. Oliver, *Peacemongers: conscientious objectors to military service in Australia, 1911–1945* (1997)

Paganism The term 'Pagan' was used widely in the nineteenth and early twentieth centuries to describe those who did not subscribe to any major religion, and it was accorded the status of a non-Christian group in state and federal censuses of 1891, 1901 and 1911. Colloquially in WA and elsewhere it was used interchangeably with 'heathen', and often to describe the Chinese.

Neopaganism now consists of several spiritual paths including Druidry, Wicca, Shamanism, Goddess Spirituality and Sacred Ecology. The beliefs vary depending on the

tradition, but most paths are polytheistic, nature-centred, consider the earth to be sacred, celebrate the human body and its cycles, and are non-patriarchal. Some groups seek to revive pre-Christian folk traditions, Goddess religions, Celtic mythology and ancient Indigenous spiritualities. Other practices stem from the revival of magic during the Renaissance, from the renewed interest in the Occult during the nineteenth century, and from Gerald Gardner, the founder of modern-day Wicca.

Interest in paganism, particularly witchcraft, spread amid the broader countercultural atmosphere of the 1960s. Pagan traditions reached Australia from the UK and the USA through literature and from pagans initiated overseas who created covens on their return. The occult subculture that existed in Australia, in the forms of spiritualism and theosophy, paved the way for alternative religions such as paganism to flourish in the 1970s. In 1976 the high priest of a Wiccan coven in the Perth suburb of Glendalough reported that two hundred pagans could be summoned for large pagan meetings.

Pagans most often meet in small localised groups and the organisation of different traditions varies. Women's spirituality groups based in Fremantle, for example, tend to share the responsibility for leading rituals, whereas others may have designated leaders, as was the case at the Church of Wicca in Roleystone, where Lady Tamara was the main facilitator. The present cyber-age has allowed pagan networking to expand across the country and internationally. The national organisation *Pagan Alliance*, for example, provides information and networking possibilities on the World Wide Web. Western Australian organisations and covens have websites to provide information about events, meetings and an opportunity for discussion.

Contemporary pagans sometimes suffer discrimination due to false images of paganism. In 1998 members of a Wiccan coven in Bunbury complained that they suffered

persecution because of their choice of belief. Today, paganism is a small but expanding religion. In the ten years between the 1991 and 2001 censuses the number of pagans in Australia is thought to have doubled. **Nicole Crawford**

See also: New Age; Theosophy
Further reading: C. Hardman and G. Harvey (eds), *Paganism today* (1995); L. Hume, *Witchcraft and paganism in Australia* (1997); J. Pearson, R. H. Roberts and G. Samuel, *Nature religion today: paganism in the modern world* (1998)

Palaeontology in WA has its origins in the early British and French maritime expeditions. In 1791 Archibald Menzies, surgeon-naturalist on George Vancouver's expedition, observed what he thought were fossil corals. These were subsequently shown to be fossil plant roots. Vancouver made the first record of fossil marine invertebrates when he noted shells adhering to the 'corals' as well as banks of fossil shells around King George Sound.

Baudin's expeditions in the *Géographe* and *Naturaliste* led to a number of discoveries of Pleistocene fossil localities. Fossil shells were observed in the Swan River estuary, on Rottnest Island and around Shark Bay. Here, the naturalist François Péron identified and recorded the first named fossil species from WA, a bivalve he called 'Natice'. This was probably *Polinices (Conuber) conicus.*

Alexander Collie made the first discovery of fossils away from the coast, collecting 'the indubitable impressions of shells and other organic remains' from the Eocene Pallinup Siltstone on the Kalgan River. By the end of the 1830s what was known about the colony's palaeontology could be summarised in just two paragraphs. But, between 1837 and 1858, expeditions into the interior resulted in a great increase in knowledge. Johann Preiss discovered the first Mesozoic

fossils, echinoderms probably from the Cretaceous Gingin Chalk. Jurassic fossils, from the Champion Bay district, were first recorded by Ferdinand von Sommer in 1846 and 1847. A number of significant discoveries were made in the 1840s. J. W. Gregory located Permian fossils on the Irwin River, where A. C., F. T. and H. C. Gregory had discovered the first evidence of coal in WA. By 1861 enough was known about the fossils from the Perth and Carnarvon Basins to enable F. T. Gregory to produce the first synthesis of the geology of the colony. The 1870s and 1880s saw the first detailed descriptions of fossils, beginning with Moore's paper in 1870 describing the Jurassic Newmarracarra Limestone fossils. Moore noted the similarity with many forms from equivalent strata from England.

The first vertebrate fossil described was the shark *Helicoprion davisii* by Henry Woodward in 1886. A year later, Edward Hardman found the first Pleistocene mammal megafauna in the Kimberley. Subsequent discoveries of invertebrate fossils in the Kimberley at the turn of the century established the presence of Cambrian and Devonian strata.

The twentieth century saw state government organisations playing a vital role in making further palaeontological discoveries. The opening of tourist caves in the South-West revealed deposits of extinct giant marsupials. This was the beginning of mammal research in this area by the WA Museum that has continued through to the present day. While The University of Western Australia is today a centre for micropalaeontology and biostratigraphy, in the 1930s and 1940s it focused on Palaeozoic invertebrates, including studies by Curt Teichert of the fossils of the Devonian reef system in the Kimberley. This work was extended greatly by the Geological Survey which, in the late twentieth century, became heavily involved in studies of Precambrian stromatolites from the Pilbara, including the oldest known fossils in the world. Discoveries of Devonian fish in the Kimberley in the 1960s led to ongoing research on these specimens at

the WA Museum. Other significant work carried out there has focused on Early Palaeozoic trackways at Kalbarri, Cretaceous molluscs, and Cenozoic echinoid and mollusc faunas, with research emphasis on palaeobiology and evolutionary theory. While fossil plants have been collected from many localities in the state for over a hundred years, little research has been undertaken on them. One of the most significant discoveries, made in 1979, was of the earliest known species of *Banksia*, forty million years old, in the Kennedy Range.
Kenneth J. McNamara

See also: Botany; British maritime exploration; Caves; Collections, fauna; French maritime exploration; Geology; Marine zoology; State emblems; Western Australian Museum; Zoology

Further reading: N. W. Archbold, 'Western Australian geology—an historical review to the year 1870', *Journal of the Royal Society of Western Australia*, 63 (1981); J. H. Lord, 'History of geology in Western Australia', *Journal of the Royal Society of Western Australia*, 62 (1979); K. J. McNamara and F. S. Dodds, 'The early history of palaeontology in Western Australia: 1791–1899', *Earth sciences history*, 5 (1986)

Palliative care has been formally practised in Western Australia since the late 1970s, after British palliative care practitioner Dr (later Dame) Cicely Saunders' lecture series on the subject. The practice is aimed at the specialised care and support of the terminally ill, and includes a focus on maintaining quality of life by meeting a person's social, emotional and spiritual needs, rather than cure. In 1982 the Hospice/Palliative Care Service (HPCS) commenced, under the joint management of Silver Chain and the Cancer Foundation, enabling terminally ill patients to remain at home as long as possible. That same year, Dr Rosalie Shaw, who had worked with the HPCS, opened a Palliative Care Unit (PCU)

at Hollywood Repatriation Hospital. The PCU was a hospital ward, initially of only four beds, which was extended in 1987 to a new, self-contained in-patient unit built around two sides of a courtyard garden. Another small palliative care facility was established at Fremantle Hospital by Dr Douglas Bridge. Both of these units remain in operation. In 1983 the Cancer Foundation opened a four-room hospice in-patient unit at Bethesda Hospital, Claremont. In its first year the unit cared for 100 patients, of whom 85 died on the premises. Despite the demand for this service, a proposal for a purpose-built hospice at Bethesda encountered insurmountable planning difficulties. A number of prominent medical practitioners, who believed that hospitals should be responsible for palliative care, opposed attempts to establish an independent hospice, and the movement also suffered from a public aversion to discussing death and dying. The state government granted the Cancer Foundation land in Shenton Park, where the Cottage Hospice was opened on 1 March 1987, under the leadership of Joy Brann, AM, CEO and with Dr Douglas MacAdam as Medical Director. The Cottage Hospice was closed in 2006 as part of a restructure of the health system in WA.

The Hospice and Palliative Care Association now operates as Palliative Care WA Inc. This coordinating body for palliative care in WA provides information to the public, government and health professionals, promotes and supports research and acts as a spokesperson for care providers. In 2007 palliative care services in WA are provided by Bethesda (Claremont), Fremantle, Glengarry, Hollywood, Sir Charles Gairdner and St John of God hospitals, the Murdoch Community Hospice, Kalamunda Palliative Care Unit, Silver Chain and units at a range of country locations. **Bobbie Oliver**

See also: Aged care; Cancer; Death; Fremantle Hospital; HIV–AIDS; Public health; Repatriation hospitals; Silver Chain

Further reading: B. Oliver, *Towards a living place: hospice and palliative care in Western Australia, 1977–1991* (1992)

Parkhurst convicts In early 1839 a sub-committee of the Western Australian Agricultural Society replied to a circular devised and written by Home Office officials at the time of the parliamentary debate the previous year on the creation of Parkhurst Prison. Parkhurst was the first English prison to be specifically designated for juvenile offenders. The circular inquired if any 'considerable portion of the community' would be willing to employ 'as apprentices' juvenile offenders who had been punished, not in an ordinary gaol, but in a special 'penitentiary'. The sub-committee gave a cautious but positive response: thirty apprentices might be employed.

As a result of this answer, and the commitment of the British government to continue transportation, eighteen convicts from Parkhurst Prison arrived in Western Australia on the *Simon Taylor* in August 1842. Over the next seven years, a further 216 Parkhurst convicts, 88 per cent of whom were aged fourteen or over, arrived on a further six vessels. The terms of their pardon required that they should be 'apprenticed' in WA and that they should not return to the country of their conviction during the term of their sentence of 'transportation beyond the seas', which, in 80 per cent of cases, was for seven years. The legal framework of the apprenticeship system was laid down in a colonial ordinance (6 Vict No. 8) passed in September 1842. The Guardian of 'Government Juvenile Immigrants' (the euphemism by which the convicts were known) was charged with finding employers for the apprentices, and for collecting the annual 'allowance' due to them, a sum of between two pounds and four pounds ten shillings, according to the year of their indenture. The majority of the apprentices worked as farm servants or shepherds during their indentures, which varied from

two years to a maximum of five years. Most of the apprentices spent their indentures at work, not in gaol or hospital, nor in the depot for those out of work, which had been established in the disused steam mill at Mount Eliza. At the peak of the system, in December 1849, apprentices and ex-apprentices aged from fourteen to sixty formed approximately 10 per cent of the male European workforce.
Andrew Gill

See also: Convict discipline and punishment; Convict legacy; Convicts
Further reading: P. E. Buddee, *Fate of the Artful Dodger: Parkhurst boys transported to Australia and New Zealand 1842–1852* (1984); A. W. Gill, *Convict assignment in Western Australia: the Parkhurst 'apprentices', 1842–1851* (2004); A. W. Gill, *Forced labour for the west: Parkhurst convicts 'apprenticed' in Western Australia, 1842–1851* (1997)

Parks and gardens in Western Australia date from the colonial period. Gardens were not part of pre-contact Indigenous culture; however, over thousands of years Aboriginal firing modified the landscape, bestowing a park-like appearance to European eyes. Prior to white settlement, experimental gardens were planted on Garden Island and along the Swan River during Stirling's explorations in 1827, and by earlier maritime explorers at places along the Western Australian coast.

Early settlers at the Swan River Colony were intent on establishing gardens and brought plants and seeds among their possessions. Aboard the *Parmelia*, for example, were nine boxes of plants, including fruit trees, vegetables, dahlias and chrysanthemums, donated by the Horticultural Society in London. Domestic gardens were soon established; however, public parks—a product of nineteenth-century urbanisation—were developed later as settlement was consolidated.

Development of parks and gardens proved difficult in WA, where poor soils, limited water, lack of money and hot, dry summers were formidable obstacles to successful horticulture, particularly in the public sphere. A small acclimatisation garden was laid out in Perth in 1831 but was absorbed within the grounds of Government House by 1834. The first parks in Perth were Stirling Gardens in St Georges Terrace, gazetted in 1845, followed by Victoria Park in East Perth and The Esplanade on Riverside Drive, c. 1880. It was in the late 1890s and early 1900s that government and municipal authorities made a serious commitment to providing outdoor recreational amenities. Kings Park (1895), Weld Square (1898), Russell Square (1898), Hyde Park (1898), Queens Gardens (1898), Point Walter Reserve (1898), Zoological Gardens, South Perth (1898), Municipal Gardens, Subiaco (c. 1900), Fremantle Esplanade (1906), and Victoria Gardens, Kalgoorlie (c. 1900) were all a response to a burgeoning urban population coupled with a desire for an enhanced civic image. New planning concepts from Britain and the USA—the Garden City and City Beautiful movements and from c. 1912 the campaign for children's playgrounds—advocating the health, social and economic benefits of urban 'breathing spaces' were significant influences during this phase.

Such ideals notwithstanding, parks have consistently been developed on leftover land unsuited to other development. Many city and suburban parks occupy former market gardens, clay pits, quarries, rubbish tips, reclaimed river foreshores and, more recently, rehabilitated industrial sites and railway reserves. Small pockets of remnant bushland in the metropolitan area are now appreciated for conservation values and represent a new type of local park.

The grounds of many institutions—Parliament House, Government House, universities, hospitals, municipal offices and cemeteries—serve also as public parks or gardens, while, in the early twentieth century, school gardens, tended by pupils, were used to inculcate lessons of discipline, civics and nature study.

Public parks and gardens, regardless of size, play a vital role in community life, catering for sports, passive recreation, concerts, carnivals, commercial promotions, civic and community functions, and, increasingly in recent decades, private marriage ceremonies. Such diverse use of the public domain invariably conflicts with private interests, nowhere more so than along the Swan River foreshores where unimpeded views are highly valued and defended by property owners, with the result that valuable riverside reserves have not been developed to their full potential.

Street trees are probably the most contentious of public plantings. Conflicts with essential services, ruthless pruning regimes and community antagonisms have plagued municipal authorities since the first plantings of Cape lilac trees in St Georges Terrace in the 1850s. The enthusiasm for public parks in the late nineteenth and early twentieth centuries was accompanied by widespread planting of street trees, with these plantings giving a distinctive local character to many of the older suburbs, such as the peppermints in Peppermint Grove, Norfolk Island Pines in Cottesloe and sugar gums in Guildford. In the 1930s there was a widespread planting of NSW box trees, and in the postwar period impressive avenues of jacaranda trees were planted in new suburbs such as Applecross.

The stylistic attributes of municipal parks remained remarkably consistent throughout the twentieth century, based largely on nineteenth-century gardenesque ideas, featuring eclectic collections of palms and trees—both Australian and introduced species—open grassed areas, and colourful beds of annuals. Around the turn of the century most parks were fenced; some were embellished with bandstands, rustic rockwork and modest fountains, features that had mostly disappeared by the interwar years. Many of the trees in the oldest parks were supplied free by the government nursery established at Hamel in 1897. Memorial parks and rose gardens were established in many suburbs and towns following

the two world wars and the traditional stone war memorials were often located within a garden setting.

Since the 1960s and 1970s there has been increasing emphasis on growing Australian flora, and with concerns for conservation of water resources has come the concept of water-wise gardening practices in public as well as private spheres. **Oline Richards**

See also: Aboriginal firing; Acclimatisation; Botany; Garden Island; Gardens, domestic; Horticulture; Kings Park and Botanic Garden; National Parks; Suburban development: Town planning; War memorials; Zoological gardens
Further reading: O. Richards, *Theoretical framework for designed landscapes in Western Australia* (1997); O. Richards, 'Public Parks and Recreation Reserves in Western Australia: The Federation Years 1890–1914', in G. Whitehead (ed.), *Planting the nation* (2001); O. Richards, 'From the wastelands [Reclamation of land and water resources in Perth]', *Australian garden history: journal of the Australian Garden History Society*, 13, 2 (2001); R. Aitken and M. Looker (eds), *The Oxford companion to Australian gardens* (2002)

Parliament The Parliament of Western Australia is a bicameral legislature consisting of a Legislative Assembly (lower house) and Legislative Council (upper house). The legislative power of the state is vested in both houses of parliament and the governor as representative of the crown.

WA was granted responsible government in 1890 and its parliament may be seen to have been constituted in that year. Prior to 1890 the Crown Colony of Western Australia had a form of representative government with a Legislative Council that was initially wholly appointive and then partially appointed and partially elected. A bicameral legislature was created in 1890, with the Legislative Council becoming an upper house with

fifteen members and a Legislative Assembly of thirty members determining the ministry of the colony. The Legislative Council was an appointive chamber from 1890 to 1894 and was thereafter wholly elective.

During the 1890s the franchise for the Legislative Assembly was broadened to encompass all white adult males by 1894 and two women from 1899. The Legislative Council was elected on a restrictive property franchise until 1965, with a constituency anywhere from a quarter to a half of that of the Assembly. Upper-house members were elected for a term of six years until 1989, initially with one-third of members retiring every two years, but elections were synchronised with the Legislative Assembly after 1965 with one-half of members retiring every three years. After 1989 the Legislative Council was reconstituted as a chamber elected under a regional proportional representation system, with thirty-four members elected from six regions and with all members serving fixed four-year terms. This ended the long-established principle of staggered terms, while facilitating the election of minor parties.

The Legislative Assembly, created in 1890, has grown from a house of thirty members to a house of fifty-seven members. Members have always been elected from single-member constituencies. The first parliament was elected for a four-year term, and thereafter for a three-year term until 1989, when the Assembly reverted to four-year terms. Only the Assembly can initiate money bills.

The Ministry is formed by the majority party or coalition of parties in the Legislative Assembly. Ministers are members of parliament by convention, with the premier and the majority of ministers coming from the Legislative Assembly. The Constitution *requires* that there be at least one minister from the Legislative Council to handle government business in that chamber, although the Council has provided up to five ministers.

Two parties have dominated the Legislative Assembly since 1890. The Australian Labor

Parliament House, 1904. Courtesy Parliament of Western Australia

Party, established in WA in 1899, formed its first government in 1904. The Labor Party has held office for a total of just under fifty years, while a combination of Forrestite, Free Trade, Liberal and Country/National parties have held office for sixty-five years of the parliament's history.

The Parliament of WA was from 1890 to 1900 the parliament of a self-governing colony within the British Empire. With the accession of WA as an original state to the Australian Commonwealth, the WA parliament became a state parliament.

The federal constitution allocated certain limited responsibilities to the federal parliament, with all remaining powers reserved to the states. In practice, the national parliament has greatly expanded its area of responsibility through constitutional amendment, judicial interpretation and fiscal dominance. The state parliament continues to have significant legal responsibilities, but is dependent on federal funding to discharge many of its functions.

The parliament has sat continuously in Perth since 1890, first in separate chambers in the city, and since July 1904 in the 'new' Parliament House in Harvest Terrace. **John Cowdell**

See also: Australian Labor Party; Country (National) Party; Liberal Party; Parliament House; Politics and government
Further reading: D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991); H. Phillips,

D. Black, B. Bott, and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998)

Parliament House, situated on an elevated site at the top of St Georges Terrace, was opened in 1904 in time for the fifth parliament since responsible government in 1890. For the first time both Houses now sat under one roof. Earlier moves for the new parliament to be erected in central Perth on the site of the then Legislative Council building were overturned.

The decision to proceed with the construction of the building developed rapidly from an initial proposal in October 1900 merely to upgrade the existing Legislative Assembly (demolished 1960s) east of the Town Hall in Hay Street, Perth. An Australia-wide competition was held to design the new Parliament House. However, no entry came within the £100,000 budget, and the Public Works Department's Chief Architect, J. H. Grainger, father of Australian composer-pianist Percy Grainger, was given responsibility for producing the final design. The outcome was the completion of the Harvest Terrace frontage and both chambers, built at a cost of £140,000, with the proposed impressive ornate domed eastern façade facing St Georges Terrace left unfinished. A 1958–64 program of works finally saw the addition of this three-storey structure, but in a much-altered style from the 1904 plans.

Controversy developed when, in accordance with the recommendations of the Stephenson–Hepburn Plan, a freeway was to be cut through land in front of the eastern façade of Parliament House, where the convict-built Pensioner Barracks stood. Demolition of the Barracks would allow an unrestricted view of Parliament House from the Terrace. Most of the building was demolished but, in October 1966, in a humiliating rebuff to the Brand government, the Legislative Assembly voted to preserve the Barracks archway.

Extensions to the southern side of Parliament House in the 1970s and to the northern wing in 2003 provided extra office accommodation. However, successive governments have not acted on the extensive redevelopment proposals recommended by the Commission on Government in 1996, and many staff now work in rented premises in nearby West Perth. **David Black**

See also: Barracks Arch; Parliament; Town planning
Further reading: P. Pendal and D. Black, *House to house: the story of Western Australia's Government and Parliament Houses over 175 years* (2004)

Pastoralism in Western Australia began with European settlement in 1829 with the importation of sheep, cattle and horses directly from England. Progress was slow because of reliance on inefficient shepherding and unfamiliarity with the environment, including native poison plants, but by 1840 the Avon Valley was established as the cradle of Western Australian pastoralism. Few, if any, investors were attracted from Australia's eastern colonies, so that pastoral practice in nineteenth-century WA developed to a somewhat different pattern. The country east of the Avon Valley was suitable only for winter grazing, so that pastoral interests did not entrench themselves to challenge future agricultural growth. Uncertain water supplies also inhibited a strong overlanding tradition, many pioneers preferring to send livestock to new districts by sea.

After the opening of the Geraldton district in 1848 and the Pilbara in 1861, wool exports gradually grew, attracting a few investors from Victoria and South Australia, but by 1880 WA produced only one per cent of Australia's output of wool and its quality was thought inferior. Ignorance of trace elements held back cattle-raising in the South-West. Alexander Forrest's promising report of the

Kimberley district stimulated a rush of investment in the 1880s. Overlanders such as the Durack family founded a significant beef cattle industry in the Ord Valley, while sheep numbers for WA had risen to 2.5 million in 1891 before falling by one-third because of poor seasons. Aboriginal resistance was largely contained by 1900, after which Indigenous labour proved increasingly important for the northern pastoral industry.

The gold rushes of the 1890s provided a thriving local market for beef and mutton as well as generating capital for the improvement of Western Australian pastoral properties. An outbreak of tick fever in 1896 temporarily checked the growth of the Kimberley cattle industry, but the years before the First World War were the heyday of the 'kings in grass castles'. In 1890 there were 129,000 beef and dairy cattle in WA; in 1919 the number reached a peak of 944,000, about half of them in the Kimberley district. Outside WA, markets were sought without permanent success in South Africa and South-East Asia, until in 1919 a government freezing works was constructed at Wyndham, just in time to sustain the beef industry through a twenty-year slump in export prices.

Wool production progressed steadily from 6,942 tonnes in 1901 to 18,867 tonnes in 1919. After 1907, conflict increased between the Pastoralists Association founded in that year and unionised pastoral workers, who fought for better pay and conditions and objected successfully to the employment of Aboriginal shearers. Meanwhile, some pastoralists retired to Perth's western suburbs, installing managers, and others took up properties in the Great Southern district, fostering a tradition of mixed wheat and sheep farming. Unlike the cattlemen, sheep graziers were protected to some extent from the vicissitudes of the export market by a compulsory purchase scheme during the First World War, followed by a widespread system of voluntary pooling. A few benefited from the establishment of a woollen mill at Albany in 1925.

The 1920s saw gradual economic tightening in the northern pastoral industry, despite the improvement promised by the extension of motor transport and aviation. Established watering points were becoming degraded because of overgrazing, and want of capital discouraged all but the enterprising from boring for water in their back country. Even some of the largest pastoralists spent most of their income on servicing debt to the banks and stock agents.

From 1930 to 1945 the effects of the Great Depression and the Second World War were exacerbated by several years of drought affecting most of the North-West. In the South-West and Great Southern districts agricultural science brought compensations during the 1930s, such as the acceptance of subterranean clover as a pasture, the discovery of the role of trace elements in soil improvement, the identification of the cause of some wasting diseases, and the introduction of the now controversial practice of 'mulesing' as a defence against blowfly strike. Although sheep numbers were stable at around 11 million between 1935 and 1951, wool production rose from 38,876 to 52,681 tonnes. A post-war boom in wool prices from 1946 to 1951 enabled pastoralists to invest at last in much-needed improvements and infrastructure, but in 1946 provoked an unprecedented show of militancy from Aboriginal pastoral workers in the Pilbara, many of whom walked off the stations in protest against low wages and established themselves in cooperatives.

Growth accelerated during the third quarter of the twentieth century. Sheep numbers had reached 34.7 million in 1976, producing a wool clip of 183,622 tonnes; in the same year the cattle population was an all-time maximum of 2,654,000. Beef prices, stabilised from 1950 to 1965 by an agreement with the United Kingdom, prompted cattlemen to modernise their practices. Between 1949 and 1963 an air beef scheme at Glenroy freighted carcasses from inland killing points to the Wyndham meatworks, but eventually

succumbed to the competition of road transport supported by the Commonwealth's beef roads scheme. Both developments spelled the end of droving cattle long distances on the hoof.

A more momentous break with tradition followed in the mid 1960s. Following a court decision that Aboriginal pastoral workers should receive the same pay as others, many pastoral properties felt obliged to sack their Aboriginal staff, in many cases disrupting their connection with their traditional country. Motorcycles and helicopters were replacing the horse for mustering. Many pastoral properties that had been family concerns with a genuine, if paternalistic, commitment to Aboriginal welfare were selling out to absentee investors. From 1975 a number of sheep and cattle stations were purchased with Commonwealth funding for restoration to Aboriginal communities, who worked them with a wide variety of competence.

With synthetics mounting an ever-growing challenge to wool in the textile industry, and with globalisation removing the remaining shreds of tariff protection, the pastoral industry since 1970 has reshaped itself. Technological innovation has replaced the labour-intensive practices of the past. Brahman-cross beef cattle were supplementing the traditional Shorthorn; and Merino sheep by breeds favoured for their meat. Mining has decisively outstripped pastoral produce as an export earner for WA, and stock numbers have receded from peak figures in the late 1980s, but in 2003–04 the state still pastured 23.9 million sheep, almost one-quarter of Australia's total flocks, and slightly fewer than two million of Australia's 26.6 million cattle.
Geoffrey Bolton

See also: Aboriginal labour; Agriculture; Economy; Frontier violence, Kimberley; Kimberley; Livestock; Pilbara strike; Stock routes; Wool
Further reading: G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979); G. McLaren, *A long, hard road, 2006 [manuscript]: a centenary history of the Pastoralists and Graziers' Association of Western Australia* (2006)

Peace movement From the foundation of the first Quaker Meeting House in Australind in 1840 to the Fremantle Peace Walk in 2005, the peace movement in Western Australia has emerged as a multi-faceted collection of social groups and organisations united in their opposition to conscription, war and nuclear weaponry.

In Easter 1916, WA representatives attended an interstate peace conference organised by the Australian Peace Alliance. In October a national referendum on military conscription was held and, despite the call for a 'No' vote by state premier Frank Wilson, WA voted in favour of conscription. Organised opposition to this result took place with support from senior state government officials, religious pacifist organisations, the Women's Peace Army and the Women's International League for Peace and Freedom (WILPF).

Peace activity increased again in the 1930s with the rise of European fascism. By 1935 a Standing Committee of all Perth Peace organisations had been established and a Peace Shop set up in London Court. In addition, The Modern Women's Club was formed in 1938 to address issues of peace and to extend membership to working women, Aboriginal women and women proscribed from the ALP due to their membership in the Council Against War and Fascism.

In the wake of the Second World War, tension resulting from the Cold War led to an expansion of the peace movement. Quakers began campaigning against nuclear testing in 1946 and the state division of the Australian Peace Council was formed in 1949. Protests have continued.

The anti-Vietnam Moratorium, Anti-Conscription Committees, and the Save Our

Sons organisation in WA opposed conscription and involvement in the Vietnam War. On 8 May 1970 a peace rally coordinated by the Moratorium drew over 200,000 protestors nationally, with 10,000 people marching in Perth. Rallies continued in September 1970 and June 1971. WILPF were active during this period, initiating a Chair in the Science of Peace at the proposed Murdoch University. Australia withdrew its troops from Vietnam on 18 August 1972 and conscription ended in December 1972. Public complaints against continuing United States use of the North West Cape station at Exmouth to support the war culminated in a protest in Exmouth in 1974 which included groups such as Quakers, unions, WILPF, newly emerging women's peace groups, students, clerics, other professionals and politicians.

After the Vietnam War, one of the issues that precipitated the formation and increased membership of peace movements in WA was the lifting of the moratorium on nuclear warships visiting Fremantle. The first nuclear warship protest took place in 1975 with the arrival of the USS *Snook*. In 1979 the protests increased to include small craft protests and car cavalcades. By 1980 coordination between the Fremantle Council and anti-nuclear organisations resulted in the Indian Ocean Zone of Peace Conference. At this time the Fraser federal government invited the US to consider HMAS *Stirling* as a home base. This resulted in a public mass meeting at the Fremantle Town Hall and continued peace protests and actions. Project Iceberg was formed to undertake non-violent direct action on board visiting warships and the first Peace Camp at Cockburn Sound was organised.

People for Nuclear Disarmament (PND) was established in 1981 as an ad hoc committee of the UNAA (United Nations Association of Australia), and in the following year began to organise Palm Sunday marches against nuclear war. The largest was held in 1983, when 20,000 people marched in Perth. These rallies continued until 1994.

The first Gulf War saw new coalitions formed. The Alliance for Peace in the Middle East, for example, organised a rally in 1991 at Fremantle in response to the visit of the USS *Missouri* from the Persian Gulf. With a second Gulf War imminent in 2002, WA representatives joined four hundred other activists at a demonstration at Pine Gap in the belief it was being used to prepare for war against Iraq. The Fremantle Anti-Nuclear Group (FANG) opposed the WA Government's 'Seaswap' trial in 2002–04 and the ship-to-shore practice bombing off Lancelin by the US Navy. The No War Alliance, formed by the socialists, organised peace rallies and actions to protest against the invasion of Iraq in 2003. Approximately 25,000 people protested in central Perth and a 'die-in' was held three days after the invasion. A peace walk from Lancelin to Fremantle was held in 2005 to protest the ongoing war. **David Worth**

See also: Anti-nuclear movement; Conscription; Greens Party; Gulf Wars; Pacifism; Quakers; Vietnam War

Further reading: B. Kearns (ed.) *Stepping out for peace: history of CANE and PND (WA)* (2004); B. Oliver, *Peacemongers: conscientious objectors to military service in Australia, 1911–1945* (1997); M. Saunders and R. Summy, *The Australian peace movement: a short history* (1986)

Pearling In 1699, Dampier recorded the existence of abundant pearl shell in the vicinity of Roebuck Bay, but it was not until 1850 that any serious interest was shown when small yellowish pearls were reported in shell gathered at Shark Bay. Pastoralists and fortune hunters created a brief period of activity resulting in piles of opened shells lying discarded on the banks of Useless Inlet. The pearls were extracted by placing the shells in *poogie* pots, designed to extract any pearls through rotting the molluscs in the sun, a process which caused a terrible odour.

These pearls were of limited value and, unlike the larger *Pinctada maxima* shell that later provided the major source of earnings from pearling activities further north, the shells had no value.

Commercial exploitation of pearl shell began in 1867 off the Pilbara coast at Nickol Bay, close to the present town of Roebourne. It developed in the wake of pastoral settlement, the emerging small port of Cossack serving as its base. At first, shell was easily recovered by wading in the shallows at low tide. As the tides varied between six and twelve metres, there was considerable scope for this activity. Aboriginal labour was eagerly harnessed and was soon extended to diving when recoverable shell in the shallows became exhausted. Pastoralists were in a privileged position to secure Aboriginal labour from their properties, and profits from pearling were significant in tiding them over in challenging times. Although early reports suggest relations between pearlers and Aborigines were amicable, they deteriorated rapidly as the industry grew. Labour scarcity due to an increasing number of pearlers resulted in blackbirding—the kidnapping of Aborigines, including women, often from inland tribes, and forcing them to the coast to dive at increasing depths. Aboriginal labour was regarded as expendable, and abuse was common. Divers' lives were cheap, and those who survived a season at sea could be left on land far from their tribal territory where they were vulnerable to other tribes.

The Flying Foam massacre of 1868 was one outcome of the frontier mentality that characterised the early years of the pearling industry. The murder of Constable Griffis and two pearlers by Aborigines of the Yaburara tribe on the Burrup Peninsula, close to the early pearling grounds, caused the Resident Magistrate at Roebourne, R. J. Sholl, to swear in two teams of special constables ostensibly to bring the perpetrators to justice. Griffis had allegedly abducted a young Aboriginal woman of the tribe at gunpoint and had later arrested her husband and chained him to a tree at the group's camping place. It was here that a group of nine Yaburara murdered the three white men while setting their tribesman free. Later, after examining the scene of the incident, Sholl estimated that approximately one hundred Yaburara, constituting possibly half of the whole tribe, had witnessed the scene. A revenge attack followed, resulting in the alleged massacre of between twenty-six and sixty Aborigines, including women and children. Over the next few months, further attacks drove the remaining Yaburara from their homelands. A legacy of this massacre has been the loss of memory of the tribal group responsible for the rock art on the Burrup Peninsula that has attracted world heritage interest.

No legislation governed the employment of labour until the 1871 *Pearl Shell Fishery Act*, which attempted to ban the employment of females, enforce annual agreements and ensure return of Aborigines to their place of origin at the conclusion of the contract. It was soon followed by the *Northern Districts Special Revenue Act* (1873), which imposed an export duty of £2 per ton, increased to £4 per ton in 1878. The Act also established an Inspector of Pearl Shell Fisheries and the provision of a small vessel to enable him to give some supervision to the fleets of luggers that were quickly coming to characterise the industry. Legislation to regulate Asian labour was introduced in 1875, mainly in response to almost one thousand Malays recruited to overcome the labour shortage. However, these Acts, their amendments and others that succeeded them were often honoured more in the breach than in the keeping, and the industry, because of its remote location, remained relatively free of regulation. There are numerous accounts of exploitation and cruelty to Aboriginal labourers contravening the terms of these Acts. However, the Resident Magistrate Sholl rarely made any prosecutions under them; as with most prominent settlers he stood to gain personally

from an exploitative approach to all aspects of pearling operations.

The price of pearl shell fluctuated according to the vagaries of fashion, as mother-of-pearl was used for decorative purposes, though its manufacture into buttons provided a more stable demand. The overall export value officially recorded rose from £174,500 in 1867 to £10,325,000 in 1904. Pearls were a significant added bonus, but shell provided the mainstay of the industry, especially if official figures are to be believed. However, the significance of the industry as an export earner had declined in relative importance by the latter date.

Apparatus diving was first experimented with as early as 1868, but was deemed unsuitable in WA until it was reintroduced around 1885, when fleets of vessels from the Torres Strait pearling grounds employing diving apparatus began to arrive to work the expanding pearling grounds off the Kimberley coast and the newly established centre of Broome. Japanese divers predominated over Malays in the use of divers' 'deep-sea suits and helmets' and they soon came to have virtually a monopoly on deep-sea recovery of pearl shell. Attempts to employ white divers proved unsuccessful, as they were less adept at recovering shell from the ocean floor than their Asian counterparts. Moreover, they were isolated at sea for long periods in cramped conditions, surrounded by languages they could not understand and commanded a 'lay' (period of time for which a diver was paid) of some £10 above that of their Japanese counterparts, thus making them less attractive to employers. Other nationalities, the variety of which made Broome legendary as a multi-racial society, performed a range of necessary tasks, such as acting as tenders, crew and cooks. Malays, important in the industry from early times, were increasingly supplemented by workers from other parts of what is now the Indonesian Archipelago, notably from Timor (Koepangers), Roti and Ambon, as well as from the Philippines,

Singapore, China, Torres Strait, South Sea Islands and Sri Lanka. Aborigines were still important but were increasingly relegated to the more menial tasks.

The Commonwealth's 1901 *Immigration Restriction Act*, which laid the basis of the White Australia Policy, had little effect on the multi-racial workforce in the pearling industry as further Commonwealth legislation was passed in 1902 to allow the employment of 'coloured' labour under permit. In 1911 the Commonwealth government announced that from 1913 only white divers would be employed, however, the attempt to employ a British group in 1913 was such a failure that Asian labour was officially reinstated in 1916.

Although the fleets arriving from Torres Strait operated with a mother schooner and many luggers, enabling them to stay at sea for long periods, the typical operation centred on Broome was to use a shore base and to have the luggers return more often to bring the harvest to shore, rather than to a mother vessel. This made it possible for a larger number of smaller operators to be successful. However, the Broome elite, composed of a powerful group of master pearlers and officials, maintained a gentrified way of life as leaders in a highly stratified town where racial segregation was practised. Tensions frequently arose from ethnic rivalries and cultural differences. These erupted most severely in the Broome riots of 1907, 1914 and 1920. Although there were often tensions at sea, it was during the summer lay-up time that widespread rioting and violence broke out as each ethnic group took it on itself to avenge attacks. The riot in 1920 was severe enough to have 180 white men sworn in as special constables and for the premier to appeal to London for assistance.

The unique position of pearling both geographically and in its pattern of operation continued to make regulation difficult. The trade in 'snide' pearls was obviously considerable, but difficult to estimate or control.

Further, given the remoteness from Australian centres of government, the expanse of coastline and proximity to South-East Asia, shell and pearls could be sold through Singapore, thus avoiding export duty. In spite of prohibition on Japanese ownership, the practice of 'dummying' (faking the ownership of vessels to conceal Japanese ownership) was widespread and the Japanese exercised much financial control. Increasingly, pearlers found they had to pay divers, tenders and crew in advance of a season, and were more often than not, with the exception of the small number of master pearlers, in debt to Japanese. Many relied only on the profits made from selling pearls because the value of shell was often absorbed in meeting their debts. The individualism that characterised pearlers' operations meant that there was no cooperative marketing, thus making it difficult to secure a good local price for their shell. Concerns over these issues resulted in the Pearling Royal Commission, appointed in 1913, but which did not reach Broome until 1916. Difficulties in gaining reliable evidence, largely because of intimidation, prevented it from effectively addressing problems that were widely known about but impossible to substantiate.

Both world wars had severely depressing effects on the pearling industry. However, the recovery after the First World War was not echoed after 1945. Japanese internment and the subsequent controversy over the reintroduction of Japanese divers hampered recovery. The widespread adoption of plastics sapped the demand for pearl shell, particularly for the manufacture of buttons. Broome entered a prolonged period of decline from which it only began to recover with the development of cultured pearls in the early 1970s. **Brian Shepherd**

See also: Aboriginal labour; Asian immigrants; Blackbirding; Broome; Frontier violence, Kimberley; Kimberley; Massacre, Flying Foam; Massacres

Further reading: M. A. Bain, *Full fathom five* (1982); N. Bartlett, *The pearl seekers* (1954); M. Durack, *The rock and the sand* (1969); H. Reynolds, *North of Capricorn: the untold story of Australia's north* (2003)

Peel Estate scheme The Peel Estate scheme grew from the state government's acquisition of a portion of the old Peel and Bateman estates south of Jandakot in 1920, which was then divided up for soldier settlement. A number of returned servicemen took up blocks, but the scheme was enlarged to include immigrants from the United Kingdom. Between 1920 and 1929 some 44,000 British migrants took up the offer, with some 492 settlers on the Peel Estate by 1924.

The state authorities had gained considerable experience over the years with the group settlement schemes (the Forrest government had set up the Coolup Agricultural Area in the 1890s, for example), but the Peel Estate was one of many which failed dismally. Although a temporary light railway was built into the region from Jandakot to facilitate development, farmers found it difficult to get produce to market once the railway was removed; and, more importantly, the soil was very infertile and drainage poor. Stock got the dreaded 'coasty' disease and other ailments due to a lack of certain trace elements, and settlers could not afford to remedy this with the new 'superphosphate' now becoming available. By 1925 about half the groupies had abandoned their blocks; by 1929 only 129 remained.

In later years, 'super' was to turn this land into fairly productive farms, and, more recently still, with the spread of the Perth metropolitan area, the district has come under residential subdivision. **Ronald Richards**

See also: Group settlement; Land settlement schemes; Peel region
Further reading: F. K. Crowley, *Australia's Western Third* (1960)

Peel region The Peel region is a large area centred on the Murray River and Peel Inlet, halfway between Perth and Bunbury. It comprises the shires of Murray, Serpentine-Jarrahdale, Boddington, Waroona and the City of Mandurah. The region has always been very well endowed with natural resources, so much so that the Aboriginal people occupying the coastal plain country were held to be physically larger, fiercer and numerically stronger than the other Indigenous peoples in surrounding tribes that the first white colonists came across during the early years of settlement. The region was completely unknown when James Stirling and his settlers arrived at the Swan River in 1829, but by the end of that year the Murray, Serpentine, Dandalup and Harvey rivers had been explored, and the rich alluvial plains along their banks assessed for future settlement.

Thomas Peel's ill-fated settlement on Cockburn Sound had failed by about August 1830, and by the end of the year he had moved the remnants of his 'establishment' down to Mandurah, at the southern end of his huge grant of 250,000 acres, Cockburn Sound Location 16. His village at 'Peeltown' remained a very small settlement for many years, with the residents farming on a subsistence basis. They were fortunate in having an abundance of wildlife in the surrounding bush and fish in the estuaries and rivers. The local Aboriginal people had built a fish trap or 'mungah' east of the settlement on the Serpentine River and maintained it for many hundreds of years. Tribes from far and wide would come down to 'Mandurrup' (meaning 'meeting place') in late summer to share in the huge harvest of mullet fish provided by the mungah and also partook of the crabs, prawns and other edible things which were present in large numbers. There was much trading during these gatherings and they were also occasions for socialising and settling inter-tribal disputes.

Settlement of the hinterland was very slow, even though nearly all of the lands along the Murray River had been granted to settlers by the end of 1832. The main difficulty was perceived to be the Murray Aborigines. This tribal clan of the south-western Bibbulmun peoples had violently resisted the occupation of their lands by the white people and there had been armed clashes between the groups resulting in deaths on both sides. In October 1834 Governor Sir James Stirling decided to lead a party of mounted police and troops into the Pinjarra district to apprehend the perpetrators of a recent murder of a soldier and provide a show of strength to the local native people to show that further violence against the white man would not be tolerated. On the morning of the 28 October, the Aboriginal camp was found and fighting broke out. In what has since been described as 'the Battle of Pinjarra' (or 'the Pinjarra Massacre'), the Aborigines retreated to the banks of the Murray River where they were surrounded and approximately thirty individuals killed—including several women and children—and many more wounded. One mounted policeman was killed and another wounded. Controversy still remains as to whether the white people set out to kill as many Aborigines as they could or whether the conflict escalated out of control as soon as the violence started. What can be said, though, is that the Murray Aborigines were never again to pose a serious threat to the Europeans. Apart from the killing of a large proportion of their warriors, the death of so many individuals brought turmoil into their intricate food totem rules and social network: the spirit of the tribe had been well and truly broken and white settlement of the Pinjarra area commenced within about a year.

Small subsistence farms were gradually developed along the river on the patches of fertile soil, but the land away from the rivers was very infertile sand country that would not grow a crop or support stock. The Darling Range hill country to the east was left uninhabited—even the Aboriginal people visited it rarely.

When convicts arrived in the 1850s they were put to work on building roads through the region and bridging the many rivers and streams. This began to reduce the 'tyranny of distance' experienced by local landowners, who were now able to produce goods for a wider market and had another means by which items could be transported than by sea. A bridge was built over the Murray River at Pinjarra and the township became an important transport node on the main communication route linking Perth and Fremantle with the South-West.

Wheat was lucrative for a time until the red rust disease struck, and breeding remounts for the British army in India paid very well for many years. Commodities such as butter, hides and wool proved viable as, although the metropolis was three days away by bullock wagon or two days by sea, they were high-value products worth the effort.

By the 1870s fish canning was under way at Mandurah and timber mills were being erected along the western edges of the Darling Range to harvest the marvellous stands of jarrah timber in the extensive forests there. The coming of the railway (Perth to Bunbury line) in the early 1890s provided a further boost to the development of the timber industry, and the towns of Jarrahdale, Waroona and Mundijong grew quickly. When a spur line was built in 1912 from Pinjarra up to Dwellingup in the hills (the Hotham Valley Line), small mill towns linked by rail to the new branch sprang up throughout the forest, with sawn timber becoming the main industry for the region. Pinjarra, being a rail junction, became even more important. The town of Boddington, located in the eastern part of the region, was developed when the railway reached the area in 1913, and prospered further when the line was extended through to Narrogin in the 1920s. It serviced the timber milling, agricultural and timber extracts industries.

The railway to Bunbury also led to the establishment of the Coolup Agricultural Area in the late 1890s, where new settlers were allocated government assistance to develop homestead blocks of 120 to 160 acres in order to settle a 'bold yeomanry' on the land, as envisaged by Premier John Forrest at the time. Unfortunately the Coolup scheme failed, with most of the farmers beaten by poor soil, flooding and unprofitable markets. It was not until the area was drained and superphosphate introduced that Coolup became a prime agricultural district specialising in whole milk, meat and wool.

The towns of Mandurah, Pinjarra and the smaller centres continued to grow slowly through the first half of the twentieth century. A buoyant tourist industry developed in Mandurah in the 1890s after the railway through Pinjarra was built and has continued to grow to this day. Waroona, Mundijong and Serpentine grew slowly as service centres supporting various nearby farming-related industries. Although the timber industry declined rapidly after the devastating Dwellingup fire of January 1961, when most of the small timber mill towns were destroyed, Dwellingup was rebuilt and now serves as a centre for tourism and various forestry activities.

Pinjarra began to grow quickly when Alcoa of Australia built a huge alumina refinery east of the town in the early 1970s. With increases in the size of the refinery, Alcoa quickly became the main employer in the region, with Pinjarra and Mandurah serving as dormitory centres for the large workforce.

By the end of the twentieth century, Mandurah was a rapidly growing city and almost an outer suburb of Perth. Although fishing and timber were only a shadow of what they once had been, tourism had continued to develop and several large canal developments at Mandurah had attracted retirees and even city workers from Perth. The small towns along the railway line continued to grow slowly but steadily, and Boddington received a boost when a very large goldmine was opened nearby in the late 1980s (though it ceased operation in 2001 it

reopened in 2006). By this time, agriculture generally was being displaced by small hobby farms and extensive urban development, and dairying had all but disappeared. Residents of the region found themselves spending more and more energy in seeking to retain the best aspects of a country or rural lifestyle in a rapidly urbanising landscape. The area's population was over 80,000 persons in 2006 and it continues to grow quickly as one of the fastest developing regions in Australia. **Ron Richards**

See also: Alumina; Bushfires; Mandurah; Massacre, Pinjarra; Massacres; Peel Estate scheme; Peel settlement scheme; Pinjarra; Railways; Timber industry
Further Reading: R. Richards, *The Murray district of Western Australia: a history* (1978); R. Richards, *Murray and Mandurah: A sequel history of the old Murray district of Western Australia* (1993); L. Snell, *Drakesbrook days and Waroona years* (1986)

Peel settlement scheme Although the ambitious Peel settlement scheme brought more than four hundred settlers to the Swan River Colony—a significant proportion of the foundation settlers of Western Australia—it also led to the ruin of the two people who floated the scheme. Thomas Peel was one of a four-person syndicate that began negotiating with the Colonial Office in November 1828 for a large grant of land at Swan River. When three members of the syndicate eventually withdrew, negotiations with Peel led to him being granted 250,000 acres (101,000 hectares), conditional on his landing 400 servants in the colony before 1 November 1829. Peel did not inform the Colonial Office that money for the venture was being put up by Solomon Levey, an ex-convict who had returned to Britain for a visit after making a substantial fortune as a trader in Sydney. Levey purchased the ship *Gilmore*, and chartered two others, the

Hooghly and the *Rockingham*, to take his and Peel's servants to WA. The ships arrived after 1 November 1829, and although the terms of his contract had not been fulfilled, Peel was allowed to take up the 250,000 acres of land. He established a settlement at a site named Clarence, on the shores of Cockburn Sound, but it soon collapsed. By mid 1830 more than forty people had died, and in September the settlement was abandoned. Levey, his spirit broken by the scheme's failure, died in London in 1833. Peel died at Mandurah in 1865, an elderly recluse whose name had become synonymous with failure. **Ian Berryman**

See also: Foundation and early settlement; Peel region; Peel Estate scheme; Swan River mania
Further reading: J. M. R. Cameron, *Ambition's fire: the agricultural colonization of pre-convict Western Australia* (1981)

Pensioner Guards The Enrolled Pensioner Force, popularly known as the Pensioner Guards, was a force of British Army 'pensioners' (veterans on half-pay) enrolled to serve as guards in Western Australia. More than 1,100 arrived between 1850 and 1868, in many cases with their families. Most served as guards on the convict transports, but some travelled on other ships. Until 1857 most were veterans of colonial wars in Africa, Afghanistan and the Punjab, but after that date many were soldiers honourably discharged from service in the British Army in Crimea and India.

The first pensioner guards arrived in June 1850 on the *Scindian*, the first convict ship. Their uniform consisted of dark greyish-brown trousers with a scarlet stripe down the leg; knee-length dark blue surcoats with facings of red and yellow; epaulettes and a tall, regulation hat. They were first stationed at the Convict Establishment in Fremantle and then at various convict depots in the colony,

where they were accommodated in pensioner barracks, stone buildings that eventually replaced hessian tents, or they were allotted small plots of land in pensioner villages. The pensioners at first received three- to four-acre plots of land, but when these small acreages proved woefully inadequate, the plots were increased to a minimum of ten acres, and then in 1857 to twenty acres. They were also given ten pounds towards the clearing of land and erection of a cottage.

Earl Grey, Secretary of State for the Colonies in 1849, was the principal architect of the plan for sending convicts and guards to WA. His main concern was the introduction of convict labour together with a force to police them without the expense of sending out regular troops. He envisioned that the pensioners would not only form a convict guard, but also a small yeomanry. To that end, he instructed Governor Fitzgerald to establish pensioner villages close to convict depots, where each man should receive an allotment of land. His plan was for the pensioners to supplement their small retainer as convict guards by establishing market gardens, and perhaps working as labourers. The principal idea was that by having a stake in the colony itself the pensioner guards would feel obliged to protect the colony and its long-term interests.

The 1853 regulations governing the pensioner guards stipulated that after seven years' service the pensioners were to be given the freehold title of their cottage and land. This was forfeited to the Crown if the pensioners were dismissed from the service for misconduct, died within the first seven years of service, became incapable of performing their duties within the first seven years, or sold liquor. Their cottage and land would also be forfeited if they were 'quarrelsome and an annoyance to their Neighbours' or allowed their house 'to become a resort for improper characters' (1853 regulations). As part of their service, the pensioners were required to attend a church parade every Sunday, and

undertake twelve days of military exercise each year.

In 1862, with the withdrawal of British Army personnel from the colony, the pensioner guards took over garrison duties. By 1865 their numbers had increased to over 500, though fewer than 350 were under arms.

Captain John Bruce was the first commanding officer of the pensioner guards. He arrived on the *Scindian* in 1850 and served until his retirement in 1870, having achieved the rank of Lieutenant Colonel. The colonial government replaced the Enrolled Pensioner Force with an Enrolled Guard in 1880, a smaller force under the control of the Superintendent of Police. It disbanded the Enrolled Guard in 1887.

The Barracks Arch at the top of St Georges Terrace, Perth, is all that survives of the substantial 120-room Pensioner Guard Barracks, built for pensioners and their families in 1863. It once dominated Perth. Pensioner-guard cottages survive in Bassendean, Toodyay, Greenough and Northam, although the latter two are partly in ruins, as are the cottages at the Lynton Convict Depot and Hiring Station at Port Gregory. Pensioner barracks survive in Guildford. **Simon Stevens**

See also: Barracks Arch; Convict legacy; Convict ships; Convicts; Fremantle Prison
Further reading: G. C. Bolton, 'Who were the Pensioners?', in C. T. Stannage (ed.) *Convictism in Western Australia: Studies in WA History*, 4 (1981); F. H. Broomhall, *The veterans: a history of the Enrolled Pensioner Force in Western Australia, 1850–1880* (1989)

Pentecostalism, an evangelical Protestant movement known for its buoyant worship and ecstatic experiences, including baptism in the Spirit and speaking in tongues, originated at revival meetings in Azusa Street, Los Angeles, in 1906. In Western Australia, Pentecostalism was introduced gradually from 1921 as

a pioneering endeavour of Good News Hall, North Melbourne. The initial Perth congregation formed in 1927 and soon divided into six, with two eventually associating with existing Pentecostal denominations from the eastern states. One group linked with the Apostolic Church in 1930, slowly growing to eight congregations in WA by 2006, three of which are outside Perth. In 1941, a second group linked with the Assemblies of God (AOG), now the largest Pentecostal denomination in WA, numbering over sixty congregations ranging from Esperance to Kununurra. An AOG ministry training facility was established in 1994. Renamed Harvest West Bible College (2000), it offers diplomas and degrees. The Foursquare Gospel Church, another Pentecostal denomination established about 1953, presently has seventeen congregations, nine in Perth. Many Pentecostal congregations are not connected to any denomination. In 2006 there were 17,967 Pentecostals recorded in the census.

Examples of significant Pentecostal congregations in the state include Christian City Church, Hepburn Heights; Grace Christian Church (Apostolic Church), Bunbury; Perth Christian Life Centre, Canning Vale; Riverview Church, Burswood, and Victory Life Church, Osborne Park. **Richard B. Roy**

See also: Spirituality and religion
Further reading: V. Synan, *The Century of the Holy Spirit: 100 Years of Pentecostal and Charismatic Renewal* (2001); V. Synan, *The Holiness-Pentecostal Tradition: Charismatic Movements in the Twentieth Century* (1997)

Performing arts criticism was news-making before the advent of television in the 1960s. *The West Australian*, the state's major journal of record, allowed editorial space for reviews as well as a serious and informed discussion of cultural activity. Critical writing not only provided a consumer guide but shaped taste and repertoire as well.

The '*West*'s' first recognised critic was Albert Kornweibel ('Fidelio') from 1912 until 1953. He covered everything with long, comprehensive and perceptive accounts of what he saw—Nellie Melba in 1914, Anna Pavlova in 1929, Sybil Thorndike in 1932, J. C. Williamson Italian Opera Company in 1949, for example. He also reviewed local productions. Paul Hasluck joined the paper as the drama critic 'Polygon' in 1933 (until 1938). He particularly championed a vigorous amateur theatre movement. Between them, Kornweibel and Hasluck had a significant influence on shaping public taste, expectation, and performance standards.

Katharine Brisbane (theatre critic for *The West Australian*, 1959–65) influenced Perth's reception of new Australian and European plays, a role she maintained as national theatre critic for *The Australian* (1967–74), and as the founding editor of Currency Press. Donna Sadka (1965–86), Kornweibel's daughter, was knowledgeable and tactful but conservative in taste, preferring the classics and the well-made play to Indigenous theatre (in the early 1970s) and the avant-garde. At the *Sunday Times*, Lesley Anderson in the 1970s and then Mardi Amos in the 1980s covered everything and wrote with passion, but often refrained from critical analysis.

Ron Banks, Arts Editor for *The West Australian* from 1990–2005, concentrated on theatre, was catholic in taste and not afraid to stick his neck out. David Hough was the Western Australian theatre critic for the *Australian Financial Review* and the *Bulletin* from the early 1980s until 1995. Dance criticism at *The West Australian* has relied on contributors rather than staff writers, with Terri Owen (1980s) and Lyn Fisher (1990s) being two of the more significant local champions of dance. Victoria Laurie (theatre) and Rita Clarke (dance) currently keep readers informed for *The Australian*. Music has been well-served by long standing contributors to *The West Australian*, first Derek Moore-Morgan in the 1970s and 1980s, and since

then by the current (2007) music critic, Neville Cohn.

Little magazines, mostly sponsored by The University of Western Australia, concentrated on analytical criticism. *Black Swan* (1917–39, 1945–49), *Arts Quarterly* (1949–50), *Winthrop Review* (1953–55), *The Critic* (1961–70), and, most durably, the quarterly *Westerly* (1956 to present) are examples. *Artlook* (1979–83), edited by Helen Weller, was controversially important.

The diversity of media outlets and so much competing entertainment today has weakened the relationship between the critic and a general readership. Word of mouth continues to be the most potent consumer guide. **David Hough**

See also: Dance, performance; Journals and magazines; Music; Musical theatre; Theatre and drama; *West Australian*
Further reading: G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); P. Hasluck, *Mucking about* (1977); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004)

Perth, the capital city of Western Australia, is situated at 115.87 longitude and 31.92 latitude, in a state separated from the east by the vast Nullarbor Plain. Closer to Singapore (3,901 kilometres) than to Sydney (4,057 kilometres), Perth is a four- to five-hour flight from the east coast of Australia. In 1947 the city was a seven and a half hour flight away from Adelaide, and in the 1880s it took a week to reach Perth from Melbourne by coastal ship. Perth has frequently been characterised as the most isolated city in the world.

The boundaries of the Perth metropolitan region stretch over 110 kilometres from north to south and 80 kilometres from east to west, covering more than 5,000 square kilometres. The heart of the metropolitan area, the City of Perth, is situated on an estuarine lagoon midway up the Swan River on the coastal plain between the Darling Range and the Indian Ocean. The port of Fremantle is situated 25 kilometres downstream at the mouth of the river.

Named after the Scottish birthplace of Sir George Murray, British Secretary of State for War and the Colonies, Perth was founded on 12 August 1829, the birthday of George IV, by Lieutenant-Governor James Stirling. A large party, including civil officials, soldiers of the 63rd Regiment and the crew of HMS *Challenger*, made their way upriver by boat from their makeshift camp on Garden Island for the ceremony. Mrs Helen Dance, 'the only lady who could be persuaded to venture so far into a savage country', drove an axe into a tree near the present Perth Town Hall to mark the event. It was later depicted by George Pitt-Morison in 1929 in his famous painting *The Foundation of Perth, 1829*.

It is thought that about four hundred Aboriginal people lived in the Swan River area in 1829 and that this number doubled when great gatherings of Nyoongar peoples were held. They were organised into extended family groupings. The Swan River groups were named by Robert Lyon in 1833 as Mooro, the district of Yellogonga; Beeloo, the district of Munday; and Beeliar, the district of Midjegooroo.

Gentry colonists of the Swan River were motivated to emigrate from Britain by the desire to possess land. The British government made generous grants of land in proportion to the number of workers and chattels that settlers brought with them: 40 acres for each £3 invested in physical assets applicable to land use and a grant of 200 acres for every adult brought with them, with smaller acreages on a sliding scale according to age for children. However, sandy soils made agriculture difficult, and attempts to add Aboriginal people to the labour force were unsuccessful. Survival was precarious and many settlers left the fledgling colony. In those early years

considerable conflict developed between colonists and Aboriginal people over land and scarce resources. The first recorded clash occurred in May 1830 when the militia attacked an Aboriginal encampment at Lake Monger after a settler's house had been plundered; a number of Aborigines were killed and three soldiers wounded.

A decline in immigration to the colony, loss of population to other colonies, the colonists' need for cheap labour and the British government's need for a penal colony led to the introduction of convicts in 1850. In that year the colony's total population was only 5,254 and there were no more than 400 houses in Perth, many only crudely constructed of wood, reeds and bushes. When transportation ceased in 1868, an infrastructure of roads, bridges and public buildings remained, as well as a legacy of deep shame, which was not dissipated for more than a century. But in its convict years Perth was proclaimed a city (23 September 1856) with the appointment of its first bishop ('the good bishop' Mathew Blagden Hale), gained a grand new Government House (1864), an imposing barracks for the Pensioner Guards (1867), fine churches (St George's Cathedral, St Mary's Cathedral, Trinity Congregational Church, and Wesley Church), a handsome Town Hall (1870), and several schools, including Perth Boys' School (1854) and Bishop Hale's School (1858). But, even in 1883, when the population of Perth had crept up to just over 6,000, a visitor could comment 'you feel yourself more out of the world in Perth than in Siberia'.

Self-government in 1890 and the rush for gold had a spectacular impact. The population of Perth and its emerging suburbs quadrupled in a decade, many newcomers fleeing the depression in eastern Australia. According to the Commonwealth census it had reached almost 70,700 in 1901, and by 1911 had climbed to 111,400. By then, Perth had become a modern commercial city. Numerous hotels had been built, notably, of those still extant, the Palace Hotel (1895).

A host of magnificent new public buildings, all designed by gifted architects of the Public Works Department, such as George Temple Poole, J. H. Grainger and Hillson Beasley, had been completed. These included the extended Treasury Buildings and Titles Office (1897), a combined Museum, Art Gallery and Library (1897), Perth Mint (1899), an impressive Supreme Court building (1903), a separate Art Gallery (1908), and Perth Technical College (1910). Private investment resulted in the building of many banks, insurance, commercial and retail buildings, as well as places of entertainment like His Majesty's Theatre (1903), though many of the finest, such as the turreted Moir's Chambers (1896–1957), Perpetual Trustees (1906–79) and the Donnybrook stone AMP Building (1916–72), have been demolished. The ideas of the American City Beautiful movement influenced Perth's civic agenda, so that its built fabric was complemented by an increased number of parks and gardens, including Queens Gardens (1898), Weld and Russell Squares (planted 1899), Perth Park, renamed Kings Park (1901), Stirling Gardens (redesigned 1903) and some streets lined with trees 'to blot out the memory of the old Perth with its dust and sand'.

The provision of housing and urban infrastructure lagged behind gold-rush growth. Population pressures accelerated the need for a plentiful water supply, but this was not considered a state responsibility and fell to the City of Perth. After years of lobbying by activists like Councillor William Traylen, a temperance advocate known as 'water-on the-brain Traylen', the City let the contract to provide its first water supply to entrepreneur Edward Keane. Victoria Dam (1891), on Munday Brook in the Darling Range, and a reservoir on Mount Eliza were constructed, servicing residents able to pay the hefty connection fee. Just a few months before the opening of the dam, Keane became Lord Mayor, though controversy over conflict of interest soon forced him to

step down. Within twenty years the water supply was inadequate and to supplement it more artesian bores were sunk. It was not until the late 1920s that an adequate supply was provided from new dams in the Darling Range.

The need for improved sanitation was underlined by typhoid epidemics at the turn of the twentieth century. Many people obtained water from a well sunk in sandy soil in the backyard, often only metres from the cesspit. A sewerage system was gradually constructed for Perth and surrounding suburbs, feeding to filter beds on Burswood Island (1906–36) and later to treatment works at Subiaco with an ocean outfall (late 1920s). Treatment works with an ocean outfall (1907) catered for the Fremantle area. Gas for lighting and cooking was first supplied within a five-mile radius of the city by the Perth Gas Company in the late 1880s, but rivalry between companies delayed the supply of electricity until the late 1890s.

Suburban settlement followed transport lines. In the early 1900s it spread along rail and tram lines, so that by 1911 Perth was ringed with suburbs. Concerned that administration could barely keep up with rapid urban development, and influenced by the idea of 'municipal socialism' gaining currency in Britain, W. E. Bold, Town Clerk of the City of Perth, moved to combine municipalities into a Greater Perth Authority. He was unsuccessful but, with architect/planner Harold Boas, was influential in the growing town-planning movement, which culminated in town-planning legislation, the nation's first enacted in 1928.

Ex-servicemen returning from the First World War were led to believe that they could expect 'homes fit for heroes', and suburbia developed rapidly in the 1920s, fed by immigration from Britain and natural population growth, and shaped by new tramways, bus routes and the motor car. The availability of transport, location of industry, topography, and the consequent price of land, meant that Perth suburbs increasingly reflected a pattern of residential segregation by class.

The impact of the Depression was mixed. Nearly 30 per cent of trade unionists were unemployed in 1932, but in suburbs like Bassendean more than 40 per cent of adult males were out of work. Violence erupted in protest marches in the city, most famously in the Treasury riot of 6 March 1931 when more than two thousand men marched on the Treasury buildings where the premier, the autocratic Sir James Mitchell, and his ministers then had their offices, on the corner of St Georges Terrace and Barrack Street. Sustenance men were employed on major public works, such as the building of Canning Dam (1931–41), and on public relief projects. It has been common for the eastern states to be blamed for any economic downturn in the west, and the secession movement of the 1930s, which fed off a sense of isolation and a feeling of neglect, typifies this pattern. Not all suffered, though: with the depreciation of the Australian, British and US currencies, the price of gold began to increase after 1930 and investment funds were attracted into gold-mining companies, leading to a mining revival in the Eastern Goldfields. The flow-on effect of the resulting boom meant that some Perth people were cushioned from the worst of the Depression. New buildings were erected in the city, including Newspaper House (1932), the Commonwealth Bank (1933), Perth's first skyscrapers—the Gledden Building (1937) and the CML Building (1936–80)—and Lawson Flats (1937). Flamboyant mining entrepreneur Claude de Bernales was responsible for the building of the mock-Tudor London Court (1937). In well-to-do areas like Nedlands, South Perth and Mount Lawley, a suburban building boom began in the mid 1930s, and with the introduction of talkies, these years also witnessed the construction of numerous cinemas.

In 1946 Perth was the smallest capital on the Australian mainland with a population of not quite 268,000. Between 1947 and 1961

Perth's population more than doubled to 475,576 with massive postwar immigration and the baby boom. The construction of a major industrial area at Kwinana to the south was facilitated by the Brand–Court coalition government's development policies and many migrant workers were housed in new suburbs nearby. A major freeway system was developed under the Stephenson–Hepburn Plan of 1955 and a new bridge at The Narrows in 1959 spanned the river, facilitating the growth of Perth's southern suburbs. During this period the appearance of the city was again transformed by the erection of high-rise office blocks, including the MLC Building (1957), Council House (1962), and Dumas House (1966). The year 1962 marked a coming of age for modern Perth. Astronaut John Glenn, the first American to orbit the Earth, dubbed it 'City of Light' after Perth people left their lights on for him as he flew overhead. The city thus gained international media attention and a ready-made publicity slogan in the lead-up to the Empire and Commonwealth Games, won for the city by Perth's second-longest-serving Lord Mayor, Harry Howard, opened by the Duke of Edinburgh, and held at a host of new purpose-built venues, such as Beatty Park and Perry Lakes Stadium, around the city.

The sesquicentenary of the foundation of the Swan River Colony in 1979 was marked by celebrations and a surge of historical writing. A buoyant economy that began with the mineral boom of the 1960s and 1970s again remade the city. By the mid 1980s glass towers dominated St Georges Terrace; inner-city suburbs like Subiaco had been gentrified; and in 1981 Perth's restaurant and nightclub area had been reinvented as Northbridge. Suburban sprawl continued to dominate the metropolitan area, even though urban renewal had become the rationale for the sale of inner-city industrial land for housing. The population of Perth reached 408,919 in 1986.

Perth has produced more than its share of corporate 'cowboys', and entrepreneurial excess was encouraged under the 'four on the floor' Burke Labor government in the WA Inc. years of the 1980s. These years also spawned a remarkable surge of self-confidence. Local bravado and sporting skill prised the America's Cup from the old-moneyed elite of the yachting world in 1983, a northern railway was built linking the city with Joondalup (1992), and a surge of creative talent became visible in the work of writers Elizabeth Jolley, Jack Davis and Tim Winton. Though confidence was shaken by the 1987 stock-market crash, Perth's dash and dare reasserted itself when the West Coast Eagles won the Grand Final of 1992, taking the Australian Football League premiership out of Victoria for the first time. A conservative government dominated the 1990s. Among its built legacies were the Swan Bells (2000), built to house the bells of St Martin-in-the-Fields, a bicentennial gift from the British government, and the spectacular Maritime Museum in Fremantle (2001). Labor's scandals of the 1980s were almost nullified when the party galloped to victory in 2001.

The population of the metropolitan area reached 1,445,0887 in 2006. Perth continues to house the vast majority of the state's two million people, despite attempts at decentralisation. It has been the fastest-growing capital city on the Australian mainland since the Second World War. In 2005, with the movement back towards inner-city living, the City of Perth became the fastest-growing local-government authority in Australia. The idea of the City Beautiful gained currency again with the encouragement of public artworks, and landscaping and restoration of the city's original riverine landscape at Point Fraser, by a council led by Perth's longest-serving Lord Mayor, Dr Peter Nattrass. Much controversy, however, surrounded the building of Perth Convention Centre (2004) on the city's foreshore by the state government, and its construction of the Perth to Mandurah

railway, an important development in a city characterised by suburban sprawl.

Cast as a 'lotus land' in the 1970s, this sprawling city and its suburbs were described in 2001 as 'a billboard for the Great Australian dream'. According to the *Economist*'s 2002 survey it had become the third most liveable city in the world. In 2006, in a boom fuelled by China's demand for mineral resources, the price of land and housing skyrocketed so that Perth's house prices were second only to Sydney's, and, for some, the dream was in danger of becoming a nightmare. A mood for change in the city centre led to the election of Perth's first female Lord Mayor, Lisa Scaffidi, in 2007, under the campaign slogan 'Get Perth Moving'.

For Perth's Aboriginal people the Great Australian dream had rarely been achievable. Banned from the central city without a pass between 1927 and 1948, families broken up by the removal and institutionalisation of children until well into the 1970s, their lives had long been blighted. Despite a subsequent appeal, the Federal Court's 2006 ruling that the Nyoongar people's continuing observation of traditional customs proved that native title continued to exist over the Perth region, provided an affirmation of survival despite more than 175 years of dispossession. **Jenny Gregory**

See also: America's Cup; Architecture; Buses; Cinema; Convicts; Depression; Electricity; Foundation and early settlement; Fremantle; Gold; Guildford; Hills Water Supply; Massacre, Pinjarra; Midland; Migration; Native title; Parks and gardens; Perth Mint; Public health; Suburban development; Town planning; Trams; WA Inc.
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); G. Seddon and D. Ravine, *A city and its setting: images of Perth, Western Australia* (1986); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979)

Perth Mint One of the oldest mints in the world, the Perth Mint is Australia's only specialist precious-metals mint. Still operating from its original premises at 310 Hay Street in East Perth, it was established in June 1899 as a branch of Britain's Royal Mint to refine the gold from Western Australia's recently discovered Eastern Goldfields, and to turn it into British sovereigns and half-sovereigns for the Empire. Between 1899 and 1931 the Perth Mint issued more than 106 million sovereigns and nearly 735,000 half-sovereigns. Later, between 1964 and 1983, it produced large volumes of Australia's conventional circulating legal-tender coinage.

The Mint continued under British control until 1970, when ownership was transferred to the Western Australian government. In the mid 1980s, following a major redevelopment initiated by the state government, the Perth Mint became the home of the Australian Precious Metals Coin Program. By agreement with the Commonwealth government, the Mint manufactures and markets internationally a range of Australian legal-tender gold, silver and platinum proof and bullion coins. It also produces coins on behalf of other countries.

In addition to producing the world's widest range of precious-metal minted products, the Perth Mint is a major tourist attraction, hosting more than 110,000 visitors a year. **Alexandra Lucchesi**

See also: Gold
Further reading: J. McIlwraith, *Striking gold: 100 years of the Perth Mint* (1999)

Perth Modern School, which opened in February 1911 as the first government school in WA to offer a complete secondary course, has a unique place in the educational history of the state. The brainchild of the then Inspector General of Education, Cecil Andrews, the school's name reflected the special attention to be given to science, mathematics and modern

languages. The school accepted, on a co-educational basis, students who won a government scholarship or 'entrance' to the school, both based on a state-wide competitive examination that became restricted to twelve-year-olds. From the early 1920s others could enter in the fourth year by qualifying through the Public Examinations Board Junior Certificate.

An extraordinary number of Modern School graduates feature prominently in the history of the state and nation, including former Prime Minister Bob Hawke, Governor-General Paul Hasluck and other state and federal parliamentarians; State Governor Ken Michael, Reserve Bank Chairman H. C. 'Nugget' Coombs and numerous other senior public servants; Supreme Court judges (including, at one stage, four out of seven on the court); prominent educators (including six former Directors-General of Education); company director and arts benefactor Janet Holmes à Court; and distinguished scientists, academics, sportspeople, writers and performers, including entertainer Rolf Harris.

In 1959 the Education Department ended the restricted-entry system and Perth Modern School became a comprehensive school serving Subiaco and surrounding districts; in 1967 the school was designated as a special music school with a program for gifted and talented music students operating parallel to other courses; and in 1980 it embraced a special ESL (English as a second language)

Perth Modern School Centre Block, 1980, photographed by Ali Sharr. Courtesy Heritage Council of WA (P02450)

unit reflecting the cultural diversity of the student population. Following the 2005 election the government announced a five-year staged return to state-wide selective academic entry at Year 8 level, commencing in February 2007. **David Black**

See also: Education, government secondary; Migrant education; Public examinations
Further reading: J. Gregory, 'Education and upward mobility in interwar Western Australia: the case of Perth Modern School', *Western Australia between the Wars 1919–1939: Studies in WA History*, 11 (1990); D. Mossenson, *State education in Western Australia, 1929–1960* (1972); Sphinx Foundation Inc., *Perth Modern School: the history and the heritage* (2005)

Perth Native Institution The Perth Native Institution was situated on about two hectares of riverside land along Mounts Bay Road, just north of the Old Brewery. This location, known as Goonininup, is now a popular family picnic spot. Here, in 1833, Captain Theophilus Ellis, a retired army officer and superintendent of the institution, issued food rations to Nyungar people whose harvest lands were being farmed by British settlers, who also competed with Nyungar for kangaroos and emus. In October 1834, Ellis was mortally wounded at the Battle of Pinjarra and his place at the institution was taken by twenty-one-year-old Francis Armstrong, who spoke a local Nyungar dialect and who by 1840 was a court interpreter and teacher at the Perth Native School. Armstrong trained Nyungar men and women to plant and harvest melons, to fish using European methods and to collect gum from trees to sell for tanning animal skins. Nyungar people also assisted the settlers in looking for straying horses and cows. The institution was not a success, however, as Nyungar people continued to follow their cultural traditions in preference to European farming practices. In October

1838 the institution closed and the land was sold. The fresh water springs there and those near Spring Street allowed Nyungar families to make their camps in the area for many years after 1838. Other attempts to train Nyungar as farm workers were conducted at Rottnest Island (1840–55), Wanneroo farm school (1847–48), York Native School (1849–52) and New Norcia mission after 1854. Only the latter was successful. **Neville Green**

See also: Feeding depots; Goonininup
Further reading: N. Green, *Broken spears* (1995); P. Vinnicombe, *Goonininup: a site complex on the southern side of Mount Eliza: an historical perspective of land use and associations in the old Swan Brewery area* (1989)

Perth Observatory is Australia's oldest continuously operating astronomical research observatory. Furthermore, it is Australia's sole fully functional state-funded observatory surviving from colonial times—Melbourne and Adelaide observatories closed in 1944 and 1949 respectively, and Sydney Observatory was converted into a museum in 1982.

The Perth Observatory was established by Sir John Forrest on 29 September 1896 to encourage scientific activity in Western Australia. Atop Mount Eliza, it was ideally situated to serve Perth in the areas of astronomy, and was also responsible for weather reports, timekeeping and monitoring earthquakes. The one o'clock gun (1902–55) was a famous Perth time-keeping tradition.

In the first decade of the twentieth century, Perth Observatory was widely regarded as the foremost Australian observatory, mainly through the innovative work of its first Government Astronomer (Director) William Ernest Cooke (1863–1947) in the *Carte du Ciel* project, the photographic mapping of the night sky and the world's first truly global research project in astronomy. Associated with this work was an accurate determination of

Perth Observatory opposite the entrance to Kings Park, West Perth in the early 1900s. Courtesy West Australian *(HIST5994)*

latitude and longitude for the observatory. This served as the surveying reference point of WA for many years. H. B. Curlewis, who started working there in 1898 and was Government Astronomer from 1912 until 1940, was often solely responsible for managing observatory functions during the Depression.

Isolated WA is occasionally astronomically very valuable, when such events as the 1922 total solar eclipse are visible only in a restricted area. On that occasion an expedition was dispatched to Wallal station near Port Hedland, in order to make observations that could be used to confirm predictions of Einstein's General Theory of Relativity. That same year, Perth and Adelaide observatories' expertise in surveying was employed to undertake the measurements from which the boundary was defined between WA and both South Australia and the Northern Territory.

During the scientific boom of the 1960s space race, under the guidance of B. J. Harris, the observatory was moved to a dark site at Bickley in the State Forest, away from the city lights. This resulted in two major initiatives that forever underlined the importance of Perth Observatory to world astronomy. Firstly, a significant program of star positions using the Hamburg Observatory's meridian telescope was undertaken. This produced the Perth 70 Catalogue, which remains one of the most accurate star catalogues acquired from the Earth's surface. Secondly, the Lowell

Observatory—NASA 61-centimetre telescope was installed, originally to undertake planetary photography in support of spacecraft missions to Mars. This telescope, fully automated to computer control in 1992, has been the mainstay of observatory research, and has also been used for supernova searching, comet research and variable star photometry. More recently, in 2005, using microlensing techniques, whereby light coming from a distant star is affected by a planet crossing between the star and Earth, Perth Observatory was the co-discoverer of the first Earth-like planet orbiting a distant star.

The observatory's other significant scientific achievements include the discovery of the rings of Uranus in 1977; discovery of thirty asteroids; Comet Halley astrometry and photometry (in both 1910 and 1986); and discovery of twenty-one new supernovae. In recent times there has been a publicly accessible Internet-based focus on astronomy events, such as the 2004 coverage of the Transit of Venus and the hosting of two publicly available Internet telescopes, as the observatory continues to progress in response to developments in technology.

A measure of the importance of Western Australia's location for astronomy research has been the development of astrophysical research facilities at Gingin to search for gravity waves, and the establishment of a radio telescope by the European Space Agency at New Norcia.

State government rationalisation has resulted in a shift in the observatory's function to a focus on public education, as well as an active public outreach program and increased media interaction for astronomical events. Currently, astronomy viewing nights are run on site, where members of the public use three large telescopes to view astronomical objects.

Perth Observatory was entered on the WA Heritage Register in July 2005, in recognition of its scientific and social values, rarity, representativeness, integrity and authenticity.
Peter V. Birch

See also: Astronautics; Carnarvon Tracking Station; Seismology
Further reading: R. Haynes, R. D. Haynes, D. Malin and R. McGee, *Explorers of the southern sky: a history of Australian astronomy* (1996); M. Utting, *Astronomy in Western Australia*, 1993; M. Utting, *Windows to the southern skies* (1991)

Pests are animals or insects with characteristics that threaten human health, economic values, or the environment. They may affect people, crops, livestock, timber, stored foodstuffs, households and gardens, and lead to loss of biodiversity. Although many pest species have been introduced, often inadvertently, some are native to Western Australia. Thus William Dampier observed in 1688 that Aboriginal people on the Kimberley coast kept their eyelids 'always half closed, to keep the Flies out of their Eyes; they being so troublesome here, that no fanning will keep them from coming to one's Face'. These bush flies, which may transmit eye diseases, proliferated upon the introduction of cattle, but their numbers declined from 1974, when CSIRO researchers successfully introduced exotic dung beetles. Other flies arrived on ships: the cosmopolitan house fly in the early years of colonisation, and the blow fly from South Africa by the 1860s. With the introduction of more susceptible types of sheep, blow-fly strike first became a serious problem between 1908 and 1913 in the South-West, and in 1928–29 in the North-West.

Horticulturalists were likewise tormented by pests, which they initially countered with cultural methods such as crop rotation and substances such as tobacco and kerosene. By the early twentieth century, lead arsenate was widely used as a garden and orchard spray, though other solutions were also sought. George Compere, Western Australian government entomologist from 1900 to 1911, travelled the world looking for predatory and parasitic species, and successfully introduced

several. However, such attempts at biological control of pests declined after 1907, only returning to favour from the 1960s as chemical controls were losing both effectiveness and popularity. Vigilance and quarantine measures prevented some incursions: between 1903 and 2000 no less than twenty codling moth infestations were discovered in the state, but in each case eradication campaigns succeeded. More tenacious was the Mediterranean fruit fly, first found at Claremont in 1895, which remains a serious orchard pest.

One of the most significant twentieth-century agricultural pests was a native one: the plague grasshopper. As settlers cleared land and planted crops and pastures in the drier Wheatbelt regions, they created ideal breeding grounds and food sources for the grasshoppers, and their numbers increased. In the context of low prices and drought in the mid 1930s, farmers struggled to control the pest; after widespread protest they were paid three shillings per acre for ploughing up breeding grounds on their properties, and given free bran and poison (sodium arsenite) for baits. Emus, which can damage crops and fences, have also been declared pests. In 1932, as large numbers of emus moved along the rabbit-proof fence into agricultural areas in search of food and water, farmers famously responded by calling upon the army for help. A party armed

Rabbits at waterhole, Wardang Dam, 1938–39. Courtesy West Australian *(HIST6909B)*

with two machine guns failed, however, to exterminate the birds.

In 1939, Western Australian government entomologist C. F. H. Jenkins observed that 'the use of chemicals as a means of insect control is practically universal'. One pest tackled with insecticides was the Argentine ant, which arrived in the state in 1941. The ant became an acute household and garden pest, infesting pantries, dining rooms, even refrigerators in its relentless pursuit of moisture. In Perth between 1949 and 1951 infested areas were sprayed with DDT, and in 1954 a large-scale spraying program involving other organochlorine insecticides began under the *Argentine Ant Act*. However, as awareness of the problems associated with organochlorines grew, so did resistance to the program. In 1988 the residents of Denmark referred it to the state's Environmental Protection Authority, and it was subsequently shelved. Organochlorines continued to be used for household termite control in WA until 1995, when they were deregistered after a long campaign by Householders for Safe Pesticide Use.

Pests are also found under water, and exotic marine species arriving on ships' hulls or in ballast water may threaten biodiversity as well as marine industries. Over twenty-seven such species have been introduced to WA, including the giant fan worm, first collected in Oyster Harbour in 1967, and the Asian mussel, first collected in the Swan River in the early 1980s. **Andrea Gaynor**

See also: Conservation and environmentalism; Environment; Exotic fauna; Exotic plants and weeds; Feral animals; Rabbit-proof fence; State barrier (emu and vermin) fence
Further reading: C. F. H. Jenkins, 'A review of economic entomology in Western Australia with reference to chemical cultural and biological methods of insect control', Masters thesis, UWA (1939); C. F. H. Jenkins, 'Insect Pests', in G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979)

Pharmacy During the first years of the Swan River Colony medication was dispensed from the basic stocks held by the colonial surgeon, from the speculative cargoes of ships trading in the area and later from the eastern colonies or overseas. The first chemist, George Shenton (1811–67) arrived in the colony in 1833, having been articled for five years to a chemist in England. He set up practice in May 1838 on the corner of Hay and William streets, which was known as Shenton's Corner for many years. Shenton was a devout Wesleyan and did not charge Aboriginal people or missions for medicine. There was no formal training for pharmacists in Australia and apprentices learned by observation and procedure. Some simply 'put up their shingle' and commenced practising—tooth extraction and minor surgery included.

The discovery of gold in WA led to a rapid expansion in population and wealth and a corresponding increase in medical practitioners and pharmacists. Although the *Medical Ordinance Act* of 1869 required medical practitioners to be registered, it was not until 1892 that a group of concerned pharmacists formed the Pharmaceutical Society of WA, and this body pressed for laws to regulate pharmacy and to place greater controls over the sale of poisons. Edward Mayhew, the society's president, was largely responsible for drafting the *Pharmacy and Poisons Act 1894*. It differed from corresponding legislation in other Australian colonies, but was comparable to the legislation in Great Britain and New Zealand. Distinctive features of the WA Act included the requirement that all registered pharmacists should belong to the Pharmaceutical Society of WA, and that the society should elect seven members to form a council to administer both the Act and the society. Since its establishment on 24 October 1892, the society has been self-regulatory, self-determining and self funding, as well as being closely involved in the education and training of pharmacists. The most recent legislation is the *Pharmacy Act 1974*. The Pharmaceutical Council of WA remains unique in Australia in that it is the executive body of the pharmaceutical professional association, as well as being the state's pharmaceutical regulation authority.

After the enactment of the *Pharmacy and Poisons Act* in 1894, apprentices were required to serve a minimum of four years indentured to a registered chemist, attending evening lectures and sitting examinations to satisfy the society's Board of Examiners. A new *Pharmacy Act* in 1964 resulted in a phasing out of the apprenticeship system and the part-time course, and all indentured students were required to qualify before 31 December 1968. Today's students attend Curtin University for four years to receive a degree in Pharmacy and then undertake 2,500 hours of supervised practice in a community or hospital pharmacy before applying for admission to the Pharmaceutical Society of WA and for a licence to practise. **June Shenton Turner and Geoff Miller**

See also: Colonial health; Curtin University of Technology; Public health
Further reading: G. Haines, *Pharmacy in Australia* (1988); A. McWhinney, *A history of pharmacy in Western Australia* (1975); J. S. Turner, 'George Shenton', *Early days,* 11 (1997)

Photography Western Australia's dry climate influenced the nature of the colony's earliest photography. Until the 1880s photography was confined to sites with available water, as plates had to be kept wet during taking and processing. Thus large collections of wet-plate photographs of inland places, such as those preserved at the Benedictine Community of New Norcia, are rare.

Photography is thought to have arrived in the colony via a South Australian portrait photographer and daguerrotypist, Robert Hall, in November 1846 (died 1866). From its earliest images, photography reveals the development

of the colony and reflects and participates in shaping ideas relating to nation-building. To local viewers, early colonial photography by the Perth solicitor A. H. Stone (1801–1873) and Fremantle-based photographers including S. M. Stout (1833–1886) documented civic development as a sign of progress towards a familiar European-style civilisation and the parallel displacement of Indigenous peoples. To European audiences, these photographs were likely seen as primitive and unfamiliar. As the colony modernised, and with increased confidence in using photographic technologies, the unfamiliar became represented using a range of more familiar artistic codes. Alongside documenting the development of the colony's architecture, photography was used to document its people. Identified convict portraits preserved in the prison registers are early survivors in a long tradition of police and prison photography in WA. There were many commercial portrait photographers, some of whom travelled to country towns; a number were ex-convicts, including Alfred Chopin (1846–1902).

Photographs of Indigenous peoples are integral to the image of a modernising state. Physical and cultural differences of many unnamed Indigenous people were photographed in studios and outdoors by missionaries at New Norcia and many unidentified professional and amateur photographers. Imagery of Indigenous people shifted from documenting their perceived 'primitive state' in the nineteenth century to an absence from much official photography from the early twentieth century. The reappearance of photographs of Aboriginal people on missions in the 1920s reflected official removal and assimilation policies. Aboriginal people also commissioned professional portraits, which are likely to have been used to demonstrate their ability to assimilate into the broader community, and have more recently built collections of photographs to service their own memories.

The confluence of discoveries of gold, the development of dry-plate technology and the introduction of the halftone printing press resulted in an expansion of the number of photographs produced. Since the first photograph published in the *Daily News* in 1893, newspapers have published a wealth of photographs. In particular, from 1897 with its Christmas annuals, the pictorial *Western Mail* purveyed an imperially focused message, where high quality reproductions brought photographs of the margins of the state to a broad public. While using many contract photographers, its first employed photographer was Fred Flood (1881–1965), employed from 1919 until the 1950s, whose pictorial works were embellished with artwork by Amy Heap (1874–1956), employed from 1922 for more than a decade.

More recently, iconic newspaper photographs have included the Miss World contestants in 1979 by David Taylor, and works by younger photographers including Nic Ellis and Frances Andrijich.

Land and its economic potential is an important theme in WA photography and reveals relationships between 'the bush', rural and urban development and nation-building. The Western Australian Geological Survey documented physical features of landscape from a scientific perspective from its inception in 1896, with many of these photographs reproduced in physical geography texts.

Many commercial photographers, including Roy Millar (photographs 1894 to c. 1913) and J. J. Dwyer (1869–1928), documented life and mining activity on the goldfields. The more pictorial aspects of rural and pastoral life across the state were photographed by Greenham and Evans (photographs 1896 to 1925) and E. L. Mitchell (1876–1959); while in the north, Mitchell's and lugger-owner Reg Bourne's picturesque representations of the pearling industry are complemented by the work of Japanese photographers including Nishioki Eki (dates unknown) and Murakami Yasukuchi (1880–1944). Created for a commercial audience, these photographs rarely showed the dirt, danger or evidence

of interracial relationships and violence that were so much part of frontier life.

Aerial perspectives of landscape exemplified modern technology, with panoramic photographs of the state taken in 1904 from a balloon by American adventurer Melvyn Vaniman (1866–1912). Extensive scaled aerial photography was used for mineral exploration, including the important 1934 Western Mining survey that used photographers Axel Poignant (1906–1986) and Stuart Gore (1905–1984). Such surveys, revealing rural land-use patterns once used to advertise the economic potential of the land, are now used as markers for documenting land degradation. The aerial perspective of modern landscape is exemplified in the work of the Dutch immigrant photographer Richard Woldendorp (born 1927). Panoramic photography provides another perspective on the expansive landscape, for example by Adair (c. 1895), with Reg Lambert's (1896–1995) single-negative panoramas more playful with perspective.

WA has been a visual state, creating images of itself for migration, business investment and tourism. This official photography became significant in the early twentieth century and depicted the unfamiliar WA landscape within an English aesthetic. Ideas about state were shaped through international exhibitions and fairs, lantern-slide shows, and distributing raw photographs, postcards and illustrated pamphlets and books to potential migrants. These approaches were developed in the early twentieth century in particular by A. O. Neville, and assisted by L. E. Shapcott's vision of building a central government photography collection. The position of government photographer was held by only two people—John Balmer (1929–61) and Ray Penrose (1961–85)—prior to its abolition in 1985.

Industrial development has been documented by commercial photographers including Illustrations Ltd (c. 1930s), and officially by the Government Photographer, with

urban development and the rise in metropolitan modernist architecture photographed by Fritz Kos. Dease Studios portraits of local soldiers leaving for war are a more sobering documentary moment, while commissioned portraits taken by Susan Watkins (born 1912) show the influence of modernist traditions from her experience in Dorothy Wilding's London studio. Over time, photographic studies including Izzy Orloff (1891–1983), Shepherd Baker Studios (c. 1960s to 1970s) and Roger Garwood (born 1945) reveal many aspects of life in WA.

Parallel with photography's commercial and propaganda functions, stylistic traditions of pictorialism developed. Following national trends, the Western Australian Van Raalte Club experimented with artistic techniques and developed local interests in artistic photography (1926–34). Material created by amateur photographers provides a human perspective and complementary voice to government and commercial imagery.

Former Western Australians have become important war photographers, including Phillip Blenkinsop (born 1965), now based in South-East Asia, and David Dare Parker (born 1958) in Iraq in 2003 as Australia's official war photographer. **Joanna Sassoon**

See also: Architecture; Art Gallery of WA; *Daily News*; *Western Mail*
Further reading: J. Dowson, *Old Fremantle: photographs 1850–1950* (2003); P. Gray and R. Lambert, *Perth and Fremantle: a pictorial contrast* (1986); L. Hoffman and C. Jeffery, *Izzy Orloff, Photographer: images 1917–1935* (1989); R. Pascoe and F. Thomson, *In Old Kalgoorlie* (1989)

Physics The establishment of a Physics Department at Perth Technical College in 1901, where an undergraduate degree was taught under the auspices of the University of Adelaide, marked the birth of the teaching of physics in Western Australia. Since that time,

physics has played an important role in teaching and research by adding to our knowledge of fundamental areas in physics, as well as contributing to Western Australian society and industry in such diverse areas as medical physics, soil science, meteorology, mineral exploration, geophysics, energy conversion, materials science and the provision of various analytical services.

In 1913 The University of Western Australia (UWA) appointed Professor A. D. Ross as the Foundation Chair in Mathematics and Physics. He was a member of the solar-eclipse expedition to Wallal, to test Einstein's Theory of Relativity in 1922. The Carnegie Institution of Washington established a magnetic observatory at Watheroo in 1917 as part of a worldwide network to monitor the Earth's magnetic field. Western Australia's unique geographical location has made it an ideal site for measuring various physical phenomena. In 1933 the Department of Physics at UWA became responsible for the supply of radon for hospitals in WA. A major contribution to soil science was made using powder X-ray analysis in the 1930s. During the Second World War, the Department of Physics became involved in optical munitions work, and pyrometric standardisation services were provided at that time.

Research was re-established in the Department of Physics in 1946 when a receiver was used to record solar radio emissions, and solar activity was observed with a spectrohelioscope. A solar observatory was subsequently established at Learmonth in 1979 to monitor sun-spot activity. Ionospheric observations were also carried out at UWA in the late 1940s. In 1950, photoelectron detection of vacuum ultraviolet spectra was commenced, and the first mass spectrometer in Australia was constructed for geochronology and nuclear astrophysics research. New research areas of soft X-ray analysis of alloys using a grating spectrometer, and photoelectron recording of band spectra, commenced in 1955. Electron microscopy was initiated at

UWA in the late 1940s and this activity led to the establlishment of the Electron Microscopy and Microanalysis Centre.

Meteorology, with the prime objective of weather forecasting, has been an important societal application of physics. Meteorological observations have been made in WA since 1829, but it was not until 1908 that the Commonwealth government set up an office in Perth. A Department of Medical Physics commenced at Royal Perth Hospital in 1959, although radiological services were available from 1897. Subsequently, all major hospitals have created Departments of Medical Physics or Nuclear Medicine, while a wide range of medical imaging modalities are available in this state, including radiation health protection services.

A Department of Applied Physics was created at Curtin University of Technology in 1968; a course in exploration geophysics was taught, along with a program in physics education. Meteorological research utilised satellite technology to investigate weather patterns in the Indian Ocean; underwater acoustics led to the formation of a Marine Science and Technology Centre; a materials science group investigates the structure of materials by X-ray, crystallography, synchrotron radiation and neutron diffraction; while mass spectrometry has been applied to geochronology, astrophysics, nuclear waste containment studies and environmental science.

Murdoch University commenced teaching physics in 1975 with an emphasis on energy issues. Solar energy conversion and the characterisation of amorphous materials are important components of photovoltaic research. A Centre for Atomic, Molecular and Surface Physics, involving Murdoch University and UWA, was formed in 1986.

Current research at UWA includes the role of magnetism in biology; properties of nanomagnetic materials; the creation of optical and microwave frequency standards; a gravity wave observatory at Gingin, which

is part of an international network of observatories; and theoretical studies in condensed matter, quantum field theory and particle physics. The discovery of the best radio-quiet zone in the world has led to a burst of activity in radioastrophysics with physicists from both Curtin University and UWA. **John de Laeter**

See also: Chemistry; Curtin University of Technology; Geological history; Geology; Meteorology; Murdoch University; University of Western Australia

Further reading: P. M. Jeffery, 'Stable isotope abundance studies in WA', *Australian Physicist* (February 1976); E. N. Maslen, 'X-ray physics in WA', *Australian Physicist* (February 1976); R. W. Stanford, 'Medical physics in WA', *Australian Physicist* (February 1976); S. E. Williams and J. B. Swan, 'Physics at The University of Western Australia, 1913–1951', *Australian Physicist* (February 1976)

Physiotherapy is a healthcare profession concerned with human function and movement through the use of a variety of physical modalities. Physiotherapists provide services to all age groups.

While it is probable that there were practitioners of massage therapy and remedial gymnastics in Western Australia prior to the 1950s, the earliest official recognition of the profession was Western Australia's *Physiotherapists Act* of 1950, prompted by the poliomyelitis epidemic during the 1940s. The Act established the Physiotherapists Registration Board, which took responsibility for educating and examining physiotherapists. The state's first physiotherapy training program was set up under the auspices of the Board, with the first students enrolled in 1951 and graduating from this three-year course in 1953. Although the physiotherapy school at Shenton Park Infectious Diseases Hospital was established seven years prior to The University of Western Australia's medical school, the physiotherapy students were taught by medical practitioners and by physiotherapists from Britain and from other Australian states. The inaugural head of school and his successor were both UK-trained physiotherapists.

The Physiotherapists Registration Board transferred education responsibilities to the Western Australian Institute of Technology (WAIT, later Curtin University) in 1970. WAIT established the Department of Therapy that included physiotherapy, occupational therapy, speech and hearing, and podiatry (at the time called chiropody). While each program had its own leader, the first head of school was Dr Jack Gilbert, a psychologist. In 1974 WAIT became the first Australian institution to offer postgraduate diplomas in physiotherapy.

In 1976 the Department of Therapy was split into three autonomous schools. The School of Physiotherapy was headed for the first time by a Western Australian-trained physiotherapist, Lance Twomey, later Vice-Chancellor of Curtin University.

Since 1950, physiotherapy education and practice have advanced in keeping with the development of medical knowledge, technologies and physiotherapy-focused research. In 2006, physiotherapists are autonomous health professionals who employ sophisticated skills and technologies and rely on evidence-based practices. Specialist postgraduate education is available in a variety of areas, including manual therapy, sports physiotherapy and ergonomics. Research-based doctoral studies are encouraged, and since 1992 there have been twenty-one doctoral graduates from Curtin, while a number of Western Australian physiotherapists have obtained doctoral degrees elsewhere. In 2005 Curtin had twenty-four enrolled doctoral students, twenty-eight masters students, and 528 entry-level students, and there were 1,948 registered physiotherapists in the state. **Rosemary Coates**

See also: Curtin University of Technology; Royal Perth Rehabilitation Hospital

Pilbara The Pilbara region is 1,200 kilometres north of Perth, covers 505,000 square kilometres and has a population of approximately 40,000 people. It is bordered on the south by the Tropic of Capricorn, in the west by the Indian Ocean, in the north by the Kimberley region, and in the east by the Northern Territory. The eastern area is mainly desert, while the west is mountains, hills and watercourses that only flow after heavy rainfall. It is a dry and arid country with vast mineral resources.

The name Pilbara, or Pilbarra, is an Aboriginal word meaning 'fish' (mullet) or, in the Kariyarra language, 'dry' or 'dried out'. Originally it was spelt with a double 'r', becoming a single 'r' between 1905 and 1910. Before the arrival of European invaders there were about twenty-eight languages spoken by the main Indigenous groups of the Pilbara. The Aborigines are known to have been in the region about 40,000 years ago, and by 20,000 years ago had penetrated far inland. There are numerous Aboriginal sites throughout the region, from rock shelters dating to the Pleistocene era, to initiation sites, ethnographical areas and rock-art galleries. Some of the finest rock art in Australia is in the Pilbara region. There are engravings on the coast at the Burrup Peninsula and in the Dampier Archipelago, around Port Hedland and inland at Gallery Hill near Woodstock and Abydos stations.

Early seventeenth-century Dutch and English ships explored the Western Australian coast, and on early maps the Pilbara is called De Witt's Land. The English adventurer William Dampier visited the coast and wrote so disparagingly of it that little interest was shown in colonising it until the nineteenth century.

By the late 1850s Walter Padbury, an entrepreneurial Swan River businessman, was looking for land for wool production. He invested in F. T. Gregory's exploration trip to the Pilbara region in 1861, otherwise mainly funded by the imperial and colonial governments. On Gregory's return to Perth he reported that he had found two- to three-million acres of good grazing land and 200,000 acres of agricultural land. Padbury and four others applied for and were granted 500,000 acres of land. The North-West of Western Australia was officially opened up for settlement on 23 December 1862. Settlers were given 100,000 acres of land rent-free for four years and a promise of tenure for a further eight years on selections of 20,000 acres, provided they transported livestock to the north.

Padbury set off for the Pilbara in April 1863, sending Peter Hedland with his small cutter, the *Mystery*, ahead of the main party to look for a port close to the De Grey River. He discovered Port Hedland but, as they could not find any fresh water, the livestock was unloaded from the sailing ship the *Tien Tsin* at a new port named Tien Tsin, and taken overland to the De Grey River. Swan River colonists Wellard, Withnell and Taylor followed Padbury and were soon followed by organised companies from Victoria. The individual settlements in WA were more successful than the Victorian corporate settlements of Camden Harbour Pastoral Association, the Denison Plains Association and the Portland Squatting Company. It was not long before the Victorian settlers followed the WA pattern of individual settlement and the corporate structures disappeared. The pastoralists' first wool, eight and a half bales, was shipped, with eight hundredweight of pearl shell, to Fremantle in December 1863.

When resident magistrate Robert Sholl and his staff arrived in the Pilbara in November 1865 he found the settlers and coastal Aboriginal people on friendly terms, but relations deteriorated as settlement spread along the coast, with Onslow and Condon (Shellborough) gazetted in 1872 and 1885. Pearling, which supported many settlers until the stations began to make a profit, was particularly disruptive to racial relations, as pearlers such as Robert Shea, a blackbirder,

kidnapped and killed Aboriginal men and kidnapped Aboriginal women. Before the First World War there were about four hundred pearling luggers working off the Pilbara coast.

The name Tien Tsin was changed in 1866 to Port Walcott, and the new Pilbara administrative town of Roebourne, named after the Surveyor General J. S. Roe, was officially sited near it. The name of Port Walcott was changed again in 1871 to Cossack after the visit of HMS *Cossack*.

There are few trees in the region and it is in the cyclone zone so early settlers built homes using spinifex and imported timber and secured their corrugated-iron roofs with wire cables. When more permanent buildings were constructed, using mud bricks and stone, they were built in a colonial bungalow style surrounded by verandahs. The shortage of water was only solved when the underground aquifers under the dry riverbeds were tapped.

Isolation was a major problem. The pastoralists desperately needed low-cost shipping for their wool, but it was not until 1877 that a ship took wool directly to London. Soon, sailing ships such as the barque-rigged *Arabella*, 665 tons, were making yearly voyages between Cossack and Condon with wool for London. Steamships came in 1884 when the WA and Straits governments agreed to pay a subsidy to run a regular service for wool, sheep and cattle between Fremantle and Singapore, calling at Cossack. The isolation of the Pilbara was further reduced in 1885 when a telegraph connection was opened to Perth.

Gold was discovered in the 'Pilbarra' goldfield in 1888, followed by the Marble Bar, Bamboo Creek and Nullagine goldfields. Marble Bar was gazetted in 1893. The main population centre was now in the East Pilbara. A newspaper, the *Northern Public Opinion*, was published in Roebourne, but Marble Bar now began to publish the *Pilbarra Goldfields News* in 1897. It began a campaign for a

railway to Port Hedland, and this was opened in 1911, effectively sealing the fate of Cossack and Roebourne as Port Hedland, gazetted in 1896, became the major port and administrative centre of the region. Cossack declined because its harbour was too shallow and the anchorage outside the port too exposed.

Severe cyclones have wreaked major damage in the Pilbara. One of the most devastating was in 1912 when the steamship *Koombana* disappeared, with a loss of 146 lives, after leaving Port Hedland for Broome. Port Hedland was also bombed twice by the Japanese during the Second World War. The Japanese were looking for the secret American air base on Corunna Downs near Marble Bar. Pilots of Liberator bombers flew night missions from there, attacking the Japanese in Indonesia and Borneo.

Stations depended heavily on Aboriginal stockmen, but these workers were only paid with their board and keep and a nominal wage. A serious Aboriginal strike against the pastoralists was planned at Skull Springs in the eastern Pilbara in 1942 by Donald William McLeod and Aboriginal lawmen for increased wages. Deferred until the end of the Second World War, the strike began on 1 May 1946 when the Aboriginal stockmen walked off the stations. Many of the stations could not afford to pay the higher wages, and so while the result was an increase in wages for Aboriginal workers, it meant that most of the stockmen never returned to station work. Since then, Aboriginal people have purchased a number of stations and settled on them, for example, Yandeyarra Station.

Major minerals mined and exported include copper, tin, asbestos and manganese ore. Wittenoom's controversial blue asbestos was shipped from Point Samson. Iron ore was first discovered in the Pilbara in the 1880s, but it was not exploited. Before the Second World War, Australia was concerned about the small size of its iron ore reserves and the need to keep Japan from exploiting them, so in 1938 the Commonwealth

government placed a ban on the export of iron ore. Subsequently, mineral exploration in the 1950s found vast quantities in the Pilbara. Australia has about 35 billion tonnes of iron ore in commercial grades, and most of it is in the Pilbara, in an area known as the Hamersley Ore Province, which extends over an area of 80,000 square kilometres. The twenty-two-year-old ban on iron ore was lifted in December 1960. Mount Goldsworthy Mining was quickly off the mark, loading their first ship for export on 27 May 1966. This move was quickly followed by Hamersley Iron, Mount Newman Mining (with major shareholder BHP) and Robe River Joint Venture Companies. All built state of the art, heavy-haul railways from their mines to their ports. The largest town in the East Pilbara, Newman, was built during the 1960s following the discovery of rich iron ore deposits at Mount Whaleback. A railway was built to carry ore to Port Hedland for export, and a record was set in 2001 when the world's longest train, 7.353 kilometres, travelled from Newman to Port Hedland. During the 1960s and 1970s the iron ore industry was riven by strikes, until senior executives of Robe River sacked most of their management and workforce, re-employing many on individual contracts. Contract labour and the introduction of the fringe-benefit tax effectively stopped companies building new mining towns and reduced the permanent populations of the existing Pilbara towns.

Solar-dried salt is produced and exported from Dampier, Port Hedland and Onslow. Tourism and fishing are also important economic activities. Minerals continue to be discovered and mined in the region, although it is now more difficult to open new mines as extensive project approvals have to be obtained from the state Environmental Protection Authority and detailed negotiations for native title completed with the traditional owners.

Massive natural gas reserves were discovered in the North-West Shelf, off the Pilbara coast, in the 1970s. In 1977 the state government determined that the gas be brought ashore at the Burrup Peninsula and that Karratha, built by Hamersley Iron, was to be a shared company town. This decision effectively moved the administrative centre for the region from Port Hedland back to the Roebourne Shire. **William (Bill) Walker**

See also: Aboriginal art, pre-contact; Aboriginal labour; Blackbirding; Cyclones; Dutch maritime exploration; Gold; Iron ore; Mining and mineral resources; Oil and gas; Pastoralism; Pearling; Pilbara strike; Rivers of the Pilbara, Gascoyne and Murchison; Salt; Second World War
Further reading: K. Forrest, *The challenge and the chance: the colonisation and settlement of north west Australia 1861–1914* (1996); J. Hardie, *Nor'westers of the Pilbara breed* (1981)

Pilbara strike The 1946–49 Pilbara strike by East Pilbara Aboriginal pastoral station workers and their families for better wages and conditions was the outcome of at least three years of rallying support and organising, facilitated by a number of Aboriginal leaders including Dooley Bin Bin and Clancy McKenna and white prospector and contract station worker Don McLeod. Aboriginal pastoral workers wanted a minimum wage and improved conditions such as freedom of movement. Pastoralists were supposed to provide shelter and meet workers' medical needs, but this was poorly enforced and accommodation or shelter was usually extremely basic. Nor were workers permitted to leave their place of employment, by law.

Talk of a strike was discussed from the early 1940s. In 1942 a secret meeting of two hundred Aboriginal law men, representing twenty-three Aboriginal groups and speaking sixteen different languages, met at Skull Springs to discuss a strike proposal. McLeod was the only European present. After six weeks a consensus was reached, providing

authorisation for the strike from the law men, but the strikers patriotically decided to defer action until the end of the war. The date chosen was 1 May 1946. Dooley, a Nyanamba man, was chosen to represent the inland desert, McKenna the strikers of the coastal region, and McLeod was elected to speak to the government and the squatters on their behalf.

Many locals and Port Hedland towns-people, but particularly pastoralists and the government through the police and the native welfare departments, waged a long and concerted effort to break the strike. Between May 1946 and early 1947 alone, McLeod, McKenna and Dooley Bin Bin were all arrested, charged, convicted and gaoled on a number of occasions over various breaches of the *Native Administration Act 1936*.

Food was one of the weapons used to try to force strikers to return to work, with station owners withholding government ration books. With a large number of people, including the elderly and children, in their membership, the strikers had no option but to quickly turn their attention to securing food and an income to sustain themselves. The strikers organised themselves into a number of small scattered 'working parties' that focused on goat- and kangaroo-skinning operations, 'dry shelling' for pearl shell, woodcutting and buffle grass seed collection. Small-scale mining also became a source of income. The strikers based themselves in coastal camps in and on the outskirts of Port Hedland, and there they were subjected to daily police visits as part of a similar campaign to break the strike. On the other hand, the strike attracted community support from groups as diverse as unions, the Communist Party of Australia and the Women's Christian Temperance Movement.

At its height, as many as eight hundred workers were on strike, with stations virtu-ally paralysed without Aboriginal labour. The strike lasted until 1949, by which time most affected stations were paying or had agreed to pay £3 a week in wages, although there was no uniform increase in wages across the industry. (Wage demands had originally been as low as thirty shillings a week in some areas.) While the strike did not achieve all the strikers' original demands, its significance lies in its endurance (lasting three years, it was the longest strike in Australian history) and its powerful example of Aboriginal struggle for equal wages, a fight finally won in the 1966 Gurindji strike at Wave Hill, Northern Territory.

Although many former strikers returned to station work, others never did; for them, the strike led to the establishment of many successful and collectively owned and oper-ated Aboriginal enterprises and businesses. By the early 1950s many of the strikers had commenced prospecting in earnest, and on the strength of various promising finds they established the company Northern Development and Mining Pty (NDM), the first Aboriginal-owned company in WA. The company had a period of great initial success, and in 1951, after returning good profits from the mining of wolfram, purchased Yandeyarra Station. In 1955 a new company, Pindan Pty Ltd, was established. However, in the late 1950s internal differences led to disputes and the formation of two groups. Those still loyal to McLeod relocated their operations briefly to the Roebourne area, and after establishing another successful company, Nomads Pty Ltd, returned to the East Pilbara and in 1971 purchased the first of many pastoral stations, including Strelley and Warralong stations. The other group, under the initial Aboriginal leadership of Ernie Mitchell, and later Peter Coppin, formed the Mugarinya Pastoral Co. and based themselves on Yandeyarra Station.
Louis Warren

See also: Aboriginal culture and society; Aboriginal labour; Industrial relations
Further reading: D. McLeod, *How the West was lost* (1984); J. Read and P. Coppin, *Kangkushot: the life of Nyamal lawman*

Peter Coppin (1999); J. Wilson, 'The Pilbara Aboriginal Social Movement: an outline of its background and significance', in R. M. Berndt and C. H. Berndt, *Aborigines of the West* (1979)

Pinjarra's first inhabitants were Bibbulmun Aborigines numbering around one hundred and living in three main groups near the Murray River and along the coastal plain. Early maps of the area feature the name 'pinjarrup', which was later changed to 'Pinjarra' or 'Pinjarrah'.

In 1829 Lieutenant William Preston RN and Dr Alexander Collie conducted the first recorded exploration of the Murray River district from the Peel Inlet upstream. Pinjarra's settlement coincided with the failure of Peel's Mandurah scheme, as settlers moved inland to locate fertile land for cropping and grazing. Many settlers declined land because of the threat of Aboriginal attack as the Bibbulmun reacted strongly to encroachment of traditional lands. Incidents of conflict occurred and culminated in 1834 with the 'Battle of Pinjarra', which effectively halved the Bibbulmun male population and claimed the lives of a number of Aboriginal women and children. Governor Stirling's decision to build military barracks at Pinjarra in 1836 increased settlement, and this partially accounts for Pinjarra's rise as the administrative centre for the district instead of Mandurah. During the 1840s, Pinjarra became a permanent settlement and was the social and economic centre for the Murray farming community. By the 1850s settlers petitioned for additional routes between Perth and Pinjarra to accommodate the growing interest in the area.

By 1871 the Murray Roads Board was established and the district continued to grow steadily, with industry focused on farming and timber milling, which was influenced significantly by the railway. Pinjarra's population was boosted by Kingsley Fairbridge's decision to establish his 'Farm School' for underprivileged English migrant children on a property north-east of Pinjarra.

By the 1940s Mandurah pushed for secession from the Murray Roads Board, and the formation of the Mandurah Roads Board in 1949 meant that development in Pinjarra temporarily petered out until the 1970s, when Alcoa established an alumina refinery, still the main industry in the area, south of the town. Today there is significant tourist interest in Pinjarra, while the rapid growth of Mandurah has seen Pinjarra being slowly relegated to the role of a dormitory suburb. **Chantal Gurney-Pringle**

See also: Aboriginal resistance, South-West; Alumina; Fairbridge Farm; Mandurah; Massacre, Pinjarra; Peel settlement scheme
Further reading: R. Richards, *The Murray district of Western Australia: a history* (1978); R. Richards, *Murray and Mandurah: a sequel history of the Old Murray District of Western Australia* (1993)

Plant adaptation Plants and their adaptation to the environment intrigued Europeans from earliest encounters, with the orange flowers of the Christmas tree *Nuytsia floribunda* causing wonderment to Dutch mariners in 1627 on the south coast of Western Australia. In 1699 on Dirk Hartog Island, William Dampier observed, 'Of Trees and Shrubs here are divers sorts; but none above ten Foot high'. The extraordinary richness of the woody kwongan heaths of the South-West on infertile sandy soils was a hallmark. Some eight thousand species of native flowering plants are known from the region, arcing from Shark Bay south-east to Israelite Bay. Half are found nowhere else, stumping Dampier and many who followed as to their identity, their true relationships in many cases only revealed in the 1990s when DNA sequence analysis was first applied to the question.

The whole of WA has an estimated 13,000 species of vascular plants, about 11,000 of

which are native, with another 1,000 collected and identified but yet to be described scientifically. Some 1,100 are introduced naturalised weeds. Most extensive are those ranging across the deserts and desert fringe. Furthest north, in the Kimberley, a semi-arid tropical flora is found, the westernmost extension of an Australia-wide 'top-end' flora that stretches east to Cape York. One order (*Dasypogonales*) and six families of flowering plants are endemic to the South-West. Southern shorelines have one of the world's richest marine algal floras, with about 900 species described.

Correlation of plant features with WA environments commenced early. Dampier made many lasting observations—the dominance of woody shrubs and small trees in arid habitats, the unusual number of blue flowers, and the presence of savannah vegetation on the north-west coast, for example. Similarly, naturalist Robert Brown, on Flinders' *Investigator* expedition in 1801–02, noted the restriction of plant species to certain soil types, such as deep sand, waterlogged peats or shallow soils on granite peaks. Colonial botanist James Drummond in 1838 published a paper describing the tubers of native orchids between Perth and Toodyay, and later corresponded with Charles Darwin regarding pollination of certain flowers. In 1863 H. M. Lefroy described correlations between soils and vegetation in the semi-arid inland as he ventured from York to beyond today's Narembeen in search of new pastures.

Not all such correlations were evidence of causation. Botanist Charles Fraser, on Stirling's 1827 exploration of the Swan River, wrongly assumed that the presence of large trees on the coastal plain signalled soil fertility, an observation which early settlers came to rue.

More penetrating ecological observations and discussion of adaptations in the WA flora first appeared in 1906 in the book by Ludwig Diels (*Die Pflanzenwelt von West-Australien südlich des Wendekreises; mit einer Einleitung über die Pflanzenwelt Gesamt-Australiens in Grundzügen*) on the vegetation and plant ecology of WA. In particular, the presence of thickened cuticles and sunken stomata (pores) in leaves were suggested to be xeromorphic adaptations for coping with drought.

Experimental studies of the function of presumed adaptations commenced in 1919 with W. J. Dakin's work on enzymes in the carnivorous leaves of the Albany pitcher plant *Cephalotus follicularis.* In the same year, D. A. Herbert investigated parasitism in Christmas trees. Brian Grieve, at The University of Western Australia in the 1950s, initiated ecophysiological research on native plants, especially on water relations. Ecophysiological research was continued by other professors at various universities, including John Pate, Arthur McComb, Jennifer McComb, Byron Lamont, Bernard Dell, Kingsley Dixon, Dianne Walker and Hans Lambers. Experimental exploration of reproductive and genetic system adaptations was initiated by Sidney James and his students in the 1960s.

Diels' suggestion that tough, leathery or spiny leaves (sclerophylls) were adaptations to drought were challenged by evidence that sclerophylly both in living and fossil plants occurs in wet habitats, but where nutrients such as phosphorus are scarce. Many strategies for obtaining nutrients and water from impoverished soils have been elucidated, including the formation of specialised cluster roots, forming partnerships with soil fungi (mycorrhizae) and bacteria to maximise uptake, and becoming parasitic. Adapting to disturbances such as fire, drought, frost damage and grazing appears to elicit either re-sprouting or adult death, but recovery from copious seed stored in the soil or canopy. Recent work on the effect of smoke on seed germination highlights special adaptations to fire. Pollination by birds, insects and mammals is accentuated in the South-West Australian Floristic Region, with adaptation of many orchids to pollination by male wasps another feature. Many plants have adaptations of their genetic systems that serve to conserve variation in small, isolated

populations. Unusual plant forms such as tree-like monocots (grasstrees), stilt-rooted herbs and spinifex hummocks attract increasing research attention. Other marked adaptations in the flora include the paucity of deciduous and succulent plants, the small size of the leaves of so many species and the production of large numbers of small flowers by many species. Evolutionary adaptation in action is evident as exotic weeds progressively invade native plant communities, dieback disease runs rampant, climate change occurs, and coping with salinity in the Wheatbelt becomes essential as saline water tables rise. **Stephen Hopper**

See also: Botany; Collections, plant; Environment; Salinity; Vegetation
Further reading: S. D. Hopper, 'South-western Australia, Cinderella of the world's temperate floristic regions', Part 1, *Curtis's Botanical Magazine*, 20, 2 (2003); S. D. Hopper, 'South-western Australia, Cinderella of the world's temperate floristic regions', Part 2, *Curtis's Botanical Magazine*, 21, 2 (2004)

Plates, Hartog and Vlamingh In October 1616, following the newly discovered Brouwer's route to the East Indies, the *Eendracht* became the first European ship to visit the west coast of Australia. The skipper, Dirk Hartog, had a pewter dinner plate inscribed with a record of the visit and had it erected on a post set on the north-western end of the island that now bears his name.

In February 1697 the crew of the *Geelvinck*, commanded by Willem de Vlamingh, found the plate at the foot of its post. It was taken to Batavia and eventually it passed to the Rijksmuseum in Amsterdam, where it remains today. Before leaving the island, Vlamingh had another plate, carrying a copy of Hartog's inscription and a record of his own visit, nailed to a new post erected at the same place.

In July 1801 the crew of the *Naturaliste*, under J. F. E. Hamelin, discovered Vlamingh's

plate at the foot of its post. Hamelin had it re-erected—against the wishes of a junior officer Louis de Freycinet—nailing it to a new post set alongside Vlamingh's, at what became known as Cape Inscription. He also left an as-yet-unfound record of his own visit.

In 1818, with his wife Rose on board, Freycinet returned to Dirk Hartog Island as commander of the *Uranie* and sent his crew ashore to recover the plate. Though *Uranie* was lost in the Falkland Islands, the plate was saved and taken to France. Located in Paris during the Second World War, it was presented to Australia in 1947 and is now in the collection of the Western Australian Maritime Museum. **Michael McCarthy**

See also: Dutch maritime exploration; French maritime exploration; Vlamingh's journey
Further reading: L. R. Marchant, *France australe* (1988); P. E. Playford, *Voyage of discovery to Terra Australis by Willem De Vlamingh in 1696–97* (1998); M. S. Riviere (trans.), *A woman of courage: the journal of Rose de Freycinet on her voyage around the world 1817–1820* (2003); G. Schilder (ed.), *Voyage to the Great South Land, Willem de Vlamingh, 1696–1697* (1985)

Playgroups provide opportunities for very young children to play and learn together with the participation of parents and carers in a safe, supportive environment. Many parent-led community activities emerged during the 1960s in Perth suburbs and country regions. These informal 'do-it-yourself' groups were mainly initiated by mothers to provide social and creative interaction for their toddlers. Holiday 'Festivals for Children' generated CATS (Children's Activities Time Society) in 1965. Child Care Week focused on parent–toddler needs in 1966 and 1967. Hyde Park Holiday Weekend, which began in 1968, promoted non-commercial playgroup-style activities. POD (Playgrounds on Demand, 1968) published booklets showing parents

how to create imaginative play spaces for young children. Provision for child-play in disadvantaged areas was initiated by Save the Children Fund, PIMS (Parents Information Mobile Service), and, for children with disabilities, Noah's Ark Toy Library. CATS Unrubbish (1972) provided recycled materials for creative play for many groups. The Playgroup Association of WA was established in 1972 in Victoria Park. Thirty years later, Playgroup WA (Inc.) services 17,000 families with over 500 playgroups throughout the state. Trained staff provide administrative and activity information, and the movement continues to reflect changing community needs. **Joan Pope**

See also: Child care; Child development; Children; Education, early childhood

Poetry The foundations of poetry in every society are lost in the haze of time, because poetry universally emerges in oral culture. The musicality of a language aids memory and performs an important spiritual and mythological function. These fundamental elements of poetry remain, often only subliminally detected, in the shift to a written culture.

Western Australia is no exception to this, and any account of its poetry necessarily concentrates on the period since white settlement, less than two hundred years ago, there being little evidence of poems in Aboriginal languages that date back 50,000 years. Those poems are likely to have been sung or chanted. William Grono provided a few examples in his 1988 anthology *Margins*:

Yulbarirra buyurr juna gidirrjaduluni
gundirr bungu yana
Southwards, rain, like smoke and a flock
of rain-birds were wheeling about as
they flew.

This dream-spirit song reveals a preoccupation with the land that has remained central

to Western Australian poetry, by white or black writers.

Poetry by early white settlers, some published in newspapers (often anonymously), followed conventional English models. Rhyming couplets are frequent, and the poems generally reflect an awareness of eighteenth-century English and Irish poetry rather than that of then contemporary Romantic poets such as Wordsworth and Keats. Accordingly, these poets present the landscape not in Wordsworthian detail but only in generalised form, as a prompt for reflection. That reflection was sometimes on exile but was more often patriotic and hopeful—perhaps wilfully—about life in the new colony. The poetry has community rather than individualism in mind, and is gentle and lightly philosophical, sometimes moral but hardly ever religious. Behind the patriotism lies a strong sense of the fragility of the (white) presence in the vast, unfamiliar landscape. Western Australia's first poet of any memorability was Elizabeth Deborah Brockman, first published in the 1860s.

Newspapers provided the only publishing outlet for most nineteenth-century Western Australian poets, and the first rush of poetry of literary rather than historical interest came late in the century, through newspapers from the Kalgoorlie goldfields. The *Bulletin* exercised an enormous influence on these poets, whose best work was as good as anything published in the famous *Bushman's Bible*. Poets such as Andrée Hayward, 'Dryblower' Murphy, and 'Bluebush' (John Philip Bourke) spun bush yarns, met genuine hardship with sardonic humour, and savagely satirised the bosses and political leaders of the day. Hayward's mock 'Penitential Hymn' begins:

O lord, who lovest fawning praise,
    And candid truth abhorrest,
Whose brows are twined with honour's
bays,
    Whose name is Premier Forrest…

Genuinely religious, and writing in Perth in the same period, was the lyricist Henry Clay. Clay's landscapes are as often Christian as local, and he was the first Western Australian to publish a collection of poems, *Two and Two*, in 1873.

The twentieth century saw the broadening and deepening of a Western Australian tradition, particularly from the mid to late 1940s. Important to this were Paul Hasluck and, especially, Kenneth Mackenzie. Mackenzie's work provided a platform for the literary, sophisticated work of Randolph Stow. Also writing during Stow's period were Alec Choate, Dorothy Hewett, Fay Zwicky and Jack Davis, the most important Aboriginal poet WA has produced. These are all major names, diverse in tone and style; Choate and Zwicky are still producing fine work.

Since then we have seen such an efflorescence of excellent poetry from WA that it is impossible to characterise it in a few words, although a number of anthologists have attempted to capture its range. As in earlier periods, the poets include migrants from overseas, such as Ee Tiang Hong, Vasso Kalamaras and Beate Josephi; arrivals from interstate and those who have left WA, including Andrew Taylor and Dennis Haskell, Philip Salom, Colin Johnson/Mudrooroo, Tracy Ryan, and John Kinsella; plus Western Australians who have stayed, producing work over a long period—Andrew Burke, Glen Phillips, Wendy Jenkins, Andrew Lansdown, Barbara Temperton and others. This group includes the Aboriginal poets Alf Taylor, Janice Herring and Graeme Dixon. While there have been many publishers of poetry, Fremantle Arts Centre Press has played the major role in publishing books by Western Australian poets, while *Westerly* has provided the flagship magazine for their work.

Poetry in WA is a bit more earthy than in the eastern states, a bit more dependent on sincerity as opposed to style. Its concerns and audience, however, are not entirely local, and WA holds many poets practising this, the most intimate, spiritually and philosophically penetrating of all the arts. **Dennis Haskell**

See also: Book publishing; Newspapers, goldfields; *Westerly*
Further reading: W. Grono (ed.), *Margins: a West Coast selection of poetry, 1829–1988* (1988); D. Haskell and H. Fraser (eds), *Wordhord: a critical selection of contemporary Western Australian poetry* (1989); N. Hasluck and F. Zwicky, 'Poetry', in Bruce Bennett (ed.), *The Literature of Western Australia* (1979); J. Hay, 'Literature and Society 1829–1979', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); *AustLit: The Resource for Australian Literature*, www.austlit.edu.au

Police and policing Policing in Western Australia may be said to have begun with the appointment of a handful of part-time constables by Lieutenant-Governor James Stirling in December 1829. No police force came into existence for decades and the Peel reforms introduced in Britain that same year had little effect in the colony until law-enforcement issues became more complex. The early constables received a fee for services, and the first permanent, salaried 'town constable' was appointed as late as 1840.

Just before the arrival in 1850 of the first convicts, a Police Ordinance was promulgated in 1849, defining the powers and responsibilities of constables in upholding the laws and preserving the public peace. By the early 1850s the law-enforcement system in the colony was quite chaotic, with marked problems of jurisdiction involving 'town police' paid from either convict funds or by the local authorities, the mounted police and the Imperial Water Police. Finance was a chronic issue: the Mounted Police Corps, formed in 1834, ceased to exist within a few years because of monetary problems.

Reacting to local pressure, the colonial government united all types of constabulary (except the Water Police) into one organisation from 14 March 1853, when the colony's first Chief of Police was appointed. He was John Conroy, an Irish aristocrat in office from 1853–56. Until 1912, virtually all of his successors were of gentry origin, often army officers or senior public servants. The social gulf between upper-class leaders and working-class led was considerable.

Several years of quite kaleidoscopic change followed, marked by serious disputes in regard to the separation of powers issue. For example, John Conroy was removed and replaced briefly by Colonial Secretary Frederick Barlee; the latter had second thoughts and soon admitted the need for a police force free of political control. In the time of Superintendent William Hogan (in office 1861–66) a new Police Ordinance of 1861 and a set of Rules and Regulations (1863) clarified police powers and stabilised the structure of the Force.

Commissioner Matthew Smith (in office 1871–87) solidified the 'building phase' of WA policing by introducing new dress regulations, rationalising the rank structure and district boundaries and introducing a specialised Detective Branch in 1873. During Smith's time the title 'Commissioner' became a permanent one, and the Imperial Water Police were subsumed within the colonial police force. Smith also arranged for the publication of the *Police Gazette* from 1876, and used annual reports to comment on issues and trends affecting law enforcement. The *Police Act* of 1892—still the governing legislation for WA policing—set the scene for the following century by outlining summary offences that could be dealt with by the police, and by settling the managerial structure.

The late colonial and early federation eras were particularly testing times for the police force. Rapid economic and demographic change made necessary a constant process of regeneration, and new technological aids such as fingerprinting and the motor vehicle were utilised. They were also stormy decades, as the police had to cope with the rapid growth of the metropolitan area, chaotic and hazardous conditions on the goldfields and the northern coasts, and sporadic violence on the pastoral frontier—the latter an issue that has sparked considerable controversy among historians. The Roth Royal Commission Report of 1904 criticised unjustified shootings by the police and the making of large-scale arrests for cattle killing. In addition, emphasis was placed on the need for the police to put an end to what were considered unsavoury aspects of contact between maritime visitors from South-East Asia and Aborigines.

On the industrial relations front, clashes between organised labour and management were an added source of difficulty, often placing the police in an invidious position up until and beyond the social traumas of the Great Depression. A major change in police management came with the forced retirement of Commissioner Frederick Hare and his replacement by Robert Connell (in office 1912–33): the dominance of the gentry ended and all later commissioners have been individuals who have risen through the ranks.

The police were fortunate to be led by the assertive and forward-looking Connell. His achievements were legion: recognition by the state government that general control and administration of policing was in the hands of the commissioner; reform of the promotional system and police school; the introduction of women police; publication of new Police Regulations and a Police Code. Two additional major branches (Traffic and Liquor Inspection) were established in the 1920s, while in the 1930s the police obtained control of firearms licensing and benefited from the introduction of a radio communications network.

Connell's immediate successors capitalised on his achievements and devoted much attention to improving working conditions and the establishment of a fair pension system. The

reformed police force gained a great deal of social credit and respect because of effective work done in helping the community through the Depression and the equally disruptive years of the Second World War. On balance, it seems that the standing of the force was at its height during the 1950s and early 1960s, especially in the metropolitan suburbs and country towns of the South-West. During this period the shape of the major police districts stabilised, from Albany in the south to the Kimberley in the north, to the goldfields of the east.

In the late 1960s WA felt the first impacts of the 'baby boomer' revolt against the traditional social and political structures of the state. The following decades of turbulence were marked by a number of public controversies, sometimes both destructive and constructive in their effects, but also by continued technological and structural advances. Educational standards for recruits were raised and the ranking system restructured. On the traffic front, the appearance of the breathalyser and the compulsory use of seatbelts had a positive effect in the struggle to reduce the road toll.

On the negative side, a couple of Royal Commissions in the mid 1970s damaged the public standing of the police. One was an indictment of police handling of an episode involving Indigenous people near Laverton. The need to build better relations was partly fulfilled by the introduction of Aboriginal Police Aides. Rumours and allegations of corruption among some police officers involved

Yalgoo police station, 1982, photographed by Ali Sharr. Courtesy Heritage Council of WA (P02770)

in dealing with the prostitution issue were aired by another Royal Commission and by the Dixon Inquiry of 1982.

The 'WA Inc.' years (1983–93) may have had a deleterious affect on policing, as they did on the state's public sector as a whole, for many aspects of corporatisation did not sit well within the traditional ethos of policing. Later analysis revealed that the trend towards over-specialisation in the police force complicated administrative matters, while policing standards slipped in some areas, especially crime detection. One outcome of a troubling period in WA political and economic life was a general recognition on the part of senior police administrators that radical reform was necessary.

From 1994 a decade of structural reform began, with the introduction of the Delta Program: some great traditional branches disappeared or were severely modified, personnel management changed dramatically, as did training methods, while a high degree of ethical behaviour was demanded at all levels of policing. The Police Force was renamed the Police Service, an organisation subject to a greater degree of public accountability than at any time in its previous history.

A Police Royal Commission Report delivered in early 2004 provided extra impetus for completing the reform program. There has also been a renewed emphasis on the traditional role of the police as a crime prevention and detection agency: the Police Service has become the Western Australia Police, and the introduction of a 'frontline first' policy was a clear statement of intent. **Peter Conole**

See also: Aboriginal protectors; Law; Native police; WA Inc.; Water police; Women police
Further reading: M. Bentley, *Grandfather was a policeman: The Western Australia Police Force 1829–1889* (1993); P. Conole, *Protect & serve: a history of policing in Western Australia* (2002); R. M. Lawrence, *Police review 1829–1979: since the days of Stirling* (1979)

Poliomyelitis epidemic Poliomyelitis, once known as infantile paralysis, is a virus that attacks the grey matter of the spinal cord, causing paralysis and possible death. Originally an endemic disease, polio began to appear from 1880 in epidemic proportions affecting all ages; three strains of the virus were identified. The behaviour of the virus challenged current theories of infection, and surrounding uncertainty aroused a high level of fear. Epidemics of polio occurred in Australia from 1897 and were most severe between 1937 and 1956, peaking in 1951. Immunisation with Salk vaccine, introduced in 1956, ended polio's reign. Sabin oral vaccine was introduced in 1966.

In Western Australia in 1938, forty-seven reported cases (one death) signified the first serious outbreak. Epidemics occurred in 1948 (311 cases, 25 deaths), 1954 (434 cases, 4 deaths), and 1956 (401 cases, 10 deaths). The epidemics were progressively marked by diversity in the age of those affected and increased numbers with serious residual paralysis, which heavily taxed the Infectious Diseases Hospital, Princess Margaret Hospital, and all sources of after-care support.

Epidemics in the east of Australia preceded those in WA, but, particularly in 1948, when notifications did not abate in winter as normal, the state struggled to respond effectively. Interstate travellers and polio-affected families were quarantined for twenty-one days. Schools and swimming baths were closed and public gatherings of children discouraged. Greater efforts in hand hygiene were recommended; eating food prepared outside the home was discouraged. To control flies, schools, school buses and trams were sprayed with a solution of DDT, kerosene and water.

A great challenge was encountered when an epidemic broke out prior to the royal visit of Queen Elizabeth II in March 1954. In WA, reported cases of paralytic polio rose sharply in January (20) and February (80). There were calls to suspend the tour altogether, but Dudley Snow, the determined and innovative

government epidemiologist, had concluded that transmission occurred through faecal contamination and believed minimising contact between children would curtail the risk. The Hawke state government, under pressure from Prime Minister Menzies, laid careful plans for the tour. The Queen and the Duke of Edinburgh stayed on the royal yacht, berthed at Fremantle, and meals were prepared on board. Indoor functions were limited to formal occasions, and shaking hands was banned. Snow's view was validated.

Challenges of a different kind were presented in 1956. Mass immunisation was planned to commence mid-year, but in the first three months of that year, 359 cases occurred, many of them severe. Thirty-two patients required respiratory support in a tank, or 'iron lung', twenty-six in a short space of time. Acceptance of immunisation rose to 97 per cent and a dramatic drop in cases followed.

Polio has faded from view, but lasting distress was often more complex than realised, leaving behind psychological and physical scars. Memories of the polio years have unexpectedly and painfully returned due to the after-effects of the virus itself. A condition

Polio victims with nurse and Sea Scouts at the Hot Pool, Dalkeith, 23 October 1949. Courtesy West Australian *(PP4477)*

known as post-polio syndrome has recently been identified, and research into this field continues. **John H. Smith**

See also: Child health; Princess Margaret Hospital; Royal tours
Further reading: J. H. Smith, 'Fear, frustration and the will to overcome: a social history of Poliomyelitis in Western Australia', PhD thesis, Edith Cowan University (1997); D. Snow, *The progress of public health in Western Australia 1829–1977* (1981)

Polish immigrants Polish migration to Western Australia commenced on a large scale with the Commonwealth government's Soldier Settlement and Displaced Persons Schemes of 1947–52. Most of the 8,000 settlers came from European refugee camps, with 1,100 arriving from camps set up in East Africa to house those, mainly women and children, who were released from Siberian labour camps in 1941. Smaller Polish migrations occurred later, especially during the 1980s following the rise of the Solidarity Movement. Most Polish immigrants professed Catholicism, with a small number identified as Jewish.

On arrival, the postwar settlers fulfilled two-year labour contracts, mostly in rural areas where the men worked primarily as railway-gangers, tree-fellers and land-clearers. Some women worked as nurses and in domestic service, while many cared for their young children in rough bush camps. While smaller groups of Polish settlers remain in Northam, Collie, Narrogin, Albany and Bunbury, many now live in the metropolitan districts of Stirling, Joondalup, Swan and Bayswater. By 2006, according to the census, the Poland-born population of WA had declined to 5,729. A further 12,000 claim Polish ancestry. The 2001 census revealed that 70 per cent of the Poland-born population in WA used Polish as an everyday language, as did 18 per cent of those claiming ancestry.

While many Polish migrants have remained outside the formal community structure, various organisations have provided a focus of cultural identity for others. *Rada Polonii w Zachodniej Australii*, the Polish Community Council, has from 1983 operated from the Polish community centre established in 1981 at Maylands alongside the Our Lady Queen of Poland Catholic Church. The site houses the *Zwiazek Polakow w Zachodniej Australii*, the Polish Association of WA, and the Polish school, the *Polska Szkola Sobotnia im. Adama Mickiewicza*, which both date from 1952, as well as *Kolo Polek*, the WA Association of Polish Women, who administer various aged-care programs. Other Polish institutions include the Cracovia Club, founded in 1950 as a soccer club, and now located in Beechboro, and the General Wladimir Sikorski Club in Bellevue. **Kerry Evans**

See also: Languages of migration and settlement; Migrant ethnic associations; Migration; Refugees
Further reading: M. Allbrook and H. Cattalini, *The General Langfitt story: Polish refugees recount their experiences of exile, dispersal and resettlement* (1994); M. Clifford, '"You have to make some sort of commitment": Polish migrant women taking Australian citizenship in Western Australia, 1947–1997', in P. Crawford and J. Skene (eds), *Women and citizenship: suffrage centenary: Studies in WA History*, 19 (1999); K. Evans, '*Matka Polka* and national identity: first generation Polish women in Western Australia', in C. Lange (ed.), *Being Australian women: belonging citizenship and identity: Studies in WA History*, 21 (2000)

Politics and government in Western Australia for virtually the whole of the nineteenth century were focused on the economic development of the colony; and on constitutional development culminating in the advent of responsible self-government in 1890 and

Western Australia's entry into the Commonwealth of Australia as an original state. Much of the twentieth-century experience was also centred on economic development and the implications of Western Australia's position in the federation, producing at one stage in 1933 an affirmative vote with a two-to-one majority to leave the Commonwealth. However, during the last three to four decades of the twentieth century additional issues emerged concerning the protection of the natural and built environment, the treatment of the state's Indigenous inhabitants and specific minority groups, and issues related to accountability agencies.

When James Stirling arrived with the first European settlers at the Swan River in June 1829, he was confronted with the task of ensuring the survival of the infant settlement in the face of almost immediate adversity, while also establishing the forms and institutions of a governing system. In consequence, by comparison with the other five Australian colonies, WA had to endure what has been described as an unusually 'prolonged period of political tutelage'. In January 1830, while still designated as Lieutenant-Governor, and acting only on the authority of a letter of appointment signed by the Colonial Secretary in England, Sir George Murray, Stirling wrote in a dispatch to the UK, 'I believe I am the first Governor who ever formed a Settlement without Commission, Laws, Institutions and Salary'. It was not until March 1831 that, on the basis of a British parliamentary Act passed in May 1829, he was appointed governor and commander-in-chief; and in February 1832 both the Executive Council and the first Legislative Council (each consisting of the governor and the same four officials) came into existence. From 1839, the year after Stirling ended his term as governor, a small number of nominated householders were added to the Legislative Council.

In 1848, nearly twenty years after the arrival of the first settlers, the colony still had a population of below 5,000, compared with nearly 39,000 in South Australia, founded some seven years later. By agreeing to the introduction of convict transportation, dating from 1850, as one remedy for its relative economic stagnation, the Western Australian colonists effectively debarred themselves from participating in the process of constitutional change following the 1850 *Australian Colonies Act*, which led to the other five colonies achieving responsible government and internal self-government by 1859. Thus, in the West there were no elected members in the Legislative Council until 1870, when the colony had a population of only 25,000, and it was not until 1890 that the Constitution was proclaimed, allowing for self-government, responsible government and the establishment of a bicameral legislature.

Given these circumstances, under the seven pre-1890 governors 'a more-or-less dictatorial system of government' was the order of the day. Government officials were largely beholden to the governor, and the distinction between official and non-official members was less than clear-cut, given that in the early days official members of the Legislative Council, including Stirling, were usually also substantial landowners. The governor himself could suspend or dismiss officials and withhold assent from bills passed through the Legislative Council, and he provided the channel for all official correspondence to and from Great Britain. All this meant politics without elections (until 1867 unofficially and 1870 officially), parties or cabinets. This also meant that the personality and outlook of the governor was of considerable importance, and of the first seven governors perhaps Stirling, with his role in the foundation of the colony and his commitment to its success, and John Hampton, with his passion for building and other public works, were the most significant, though both attracted considerable contemporary criticism.

Underpinning all the political issues of the day, including the gradually increasing demand for more popular participation in government, was the problem of finance.

Until 1856 the colony depended on an annual grant-in-aid from the British parliament, and this ended then only because the British were spending substantial sums on the separately administered convict establishment. The lack of locally generated finance meant the governors were under constant pressure to reduce expenditure. Land policy was another constant source of controversy dating from the decision, from 1832 onwards, that Crown land should be sold rather than granted; and there were also ongoing arguments about the improvement conditions imposed on those who had received grants of Crown land. Dating from the 1850s, provision for long-term leasehold arrangements away from the settled areas eased some of the pressure. Other major ongoing issues included the nature of the colony's education system and how to overcome labour shortages, including the controversies before the decision that the colony would accept convicts from Britain.

Between 1870 and 1890 the affairs of the colony remained in the hands of the governor, who now, however, had to deal with a Legislative Council, two-thirds of whose members were elected on a limited property franchise and of which he was no longer a member, though he could still veto legislation. During this period the tariff and education issues were of particular importance. Governor Weld, himself a Catholic, had legislation passed in 1871 providing for a dual education system with government and church schools alike receiving funds from the state, and this survived until the mid 1890s when John Forrest, the first premier under responsible government, reluctantly bowed to pressure for the end of state aid to all private schools. Issues centred on tariffs for the protection of the agricultural producers were constant sources of controversy, but the need for revenue saw the general levels of tariffs rise steadily. The demand for constitutional change and self-government waxed and waned for a number of years, but from 1886 onwards this intensified rapidly due to disputation within

the existing power elite, the arrival of a growing number of new settlers, and, perhaps above all, the colonists' wish to be able to borrow at their own discretion in order to finance public works.

The politics of Western Australia's first decade under responsible government followed the pattern of the five eastern colonies in that, initially, factional rather than party politics were the order of the day. However, the role of Sir John Forrest was unusual, firstly in that as surveyor-general his parliamentary service prior to 1890 had been as a nominated official member, and then because he remained premier continuously from December 1890 until his resignation early in 1901 to enter federal politics. Notwithstanding his generally conservative outlook, Forrest presided over a period of rapid change in the constitutional structure, including the transition to white manhood suffrage for the Legislative Assembly in 1893, and from a nominated to elective house for the Legislative Council by 1894, as well as the granting of votes to women in 1899 and the payment of members of parliament in 1900, by which time there were fifty members in the Legislative Assembly and thirty in the Legislative Council.

Central to Forrest's program was the use of the revenue and investment flow resulting from the gold-rush boom of the 1890s to secure long-term replacement industries as the returns from gold declined. Thus the groundwork was laid, with land policy, the building of railways, the provision of water supplies (including the 330-mile Mundaring to Kalgoorlie water pipeline, which could be tapped to service newly settled areas in the Wheatbelt), and the provision of finance for intending farmer settlers through the Agricultural Bank, established in 1894. His policies giving mining companies access to deep mining on land being exploited for alluvial gold and the slow rate of increase in goldfields membership of parliament led to some heated disputes and the threat by the goldfields, mainly inhabited by 't'othersiders

from the eastern colonies', to secede and be incorporated into South Australia unless a referendum was held to secure Western Australia's entry into the federation as an original state. Despite strong anti-federation sentiment in the farming areas, the referendum in July 1900 was carried with a comfortable majority, but manifestations of anti-federalism remained an ongoing feature of politics throughout the whole of the twentieth century.

During the first thirteen years of the twentieth century the political party system in WA was established in the form in which, for the most part, it was to persist until the last decade of the century. On 11 April 1899, 28 men met in Coolgardie to open the colony's first Trade Union and Labour Congress and in the process to found the Australian Labor Federation WA (ALF), based on the model from New South Wales. The new party contested seats at both the federal and state elections in 1901, winning two Senate seats and two House of Representatives seats in the former, and six of the fifty seats, including five from the goldfields, in the WA Legislative Assembly.

The first few years after federation produced a series of short-lived governments, including a minority Labor government for twelve months from August 1904, but at the election in October 1905 voters for the first time had a clear-cut choice between Ministerialist and Labor candidates. Six years later, Labor, which had won only 15 seats in 1905, secured a 34–16 majority in the Legislative Assembly and formed its first majority government under the state's youngest ever premier, thirty-five-year-old John Scaddan. In the meantime their political opponents had formed the Liberal League, only to be confronted by 1914 with the foundation of the breakaway Country Party, the first in the nation to win parliamentary seats under that designation.

The fledgling three-party system underwent further upheavals following the 1916–17 conscription crisis. A breakaway

Lord Forrest and Sir James Mitchell, n.d. Courtesy West Australian *(HIST5162)*

National Labour Party held parliamentary seats until the mid 1920s, siding with the former Liberals, now termed the National Party. In addition, renewed factionalism troubled the Liberals and the Country Party, even after James Mitchell assumed the premiership from 1919 to 1924. Only in Opposition after 1924 could the Nationals (termed the United Party from 1926 to 1928) settle into a stable coalition with the Country Party.

From 1924, returning to power under Philip Collier, Labor occupied the treasury benches for all but three of the next twenty-three years. Three years earlier, in 1921, Edith Cowan had made history when she became the first woman to sit in an Australian parliament (and only the second in the British Empire), representing West Perth in the Legislative Assembly. Subsequently, although only a handful of other women were elected to the WA Parliament or the national parliament prior to 1983, these included Dorothy Tangney, Australia's first woman senator from 1943 to 1968; Florence Cardell-Oliver (MLA 1936 to 1956), elected in 1947 as Australia's first female cabinet minister; and Carmen Lawrence (MLA 1986 to 1994), elected in 1990 as Australia's first woman premier.

Until the advent of the Great Depression, the central issue of state politics, outside of the First World War and its consequences,

concerned ways and means of developing industries to replace the waning returns from gold mining, coupled with ongoing concerns about the impact of national tariff policies on Western Australia's primary industries. Whichever party was in power, the prime emphasis over these decades, at considerable taxpayer expense, was on the wheat industry, though there were also significant financial losses when Mitchell endeavoured to promote a dairy industry in the south-western corner of the state by means of the so-called Group Settlement Scheme. Nevertheless, for the most part the construction of railways, provision of loans for settlers, and other forms of direct or indirect assistance to wheat farmers, continued unabated until the crash of 1929, by which time farming had extended into increasingly marginal rainfall areas. A burst of state socialism under Scaddan between 1911 and 1914 had been quickly wound back in a number of areas, but a variety of state trading concerns remained, even under non-Labor rule, until the 1960s. The Collier–Mitchell era was always one of relatively amicable relations between Labor and non-Labor, to the extent that when Mitchell lost his own parliamentary seat after a troubled three years in power from 1930 to 1933, Collier appointed him as Lieutenant-Governor. Curiously, on the same day as the voters returned the state ALP to power in 1933, they overwhelmingly supported a referendum proposal for WA to secede from the Commonwealth, a proposal supported by most, though not all, of the non-Labor members and opposed by the ALP.

The Second World War had the effect of better integrating WA into the national economy and national politics, with John Curtin in 1941 becoming the first Australian prime minister to represent a WA constituency. Between 1947 and the late 1960s, Western Australia's population doubled from half a million to one million. After a transition period in the 1940s and 1950s, when both sides of politics had six-year terms in power,

a Liberal–Country Party election victory in 1959 (due in part to the activities of the WA Trade Bureau agitating against the Labor government's legislation to control 'unfair trading' and excessive profits, as well as the effects of the nationwide split in the ALP and the formation of the breakaway Democratic Labor Party in the mid 1950s) ushered in a twenty-four-year period in which Labor was out of office, except for one brief spell between 1971 and 1974.

During the term of the McLarty–Watts government from 1947 to 1953, future premier David Brand, as Minister for Works, had been linked with public servant Russell Dumas in the beginning of Western Australia's postwar economic boom, especially through the development of the Kwinana industrial area south of Fremantle. Government concessions to the major corporations involved included cheap land, some waiving of harbour dues, construction of roads, and provision of water, power and serviced housing estates. Subsequently, during a record term as premier from 1959 to 1971, Brand presided over a Liberal–Country Party coalition with first Arthur Watts and then Crawford Nalder as deputy premier, but the government was more frequently referred to as the Brand–Court government because of the part played by his Liberal party deputy, Charles Court, as Minister for Industrial and Resource Development. The government sold many of its state trading enterprises, including the state sawmills, brickworks and state hotels, and set out to attract substantial overseas private capital to develop the state's mineral resources and especially the iron ore deposits in the Pilbara region. Although this was still with a high degree of government involvement, the substantial expenditures involved meant much more of the infrastructure had to be supplied by the companies themselves. The booming economy brought continuing political success for the non-Labor parties and the introduction of universal suffrage for the Legislative Council by 1965 was counterbalanced by a malapportioned distribution.

Despite the prosperity, stresses and strains began to develop towards the end of the 1960s, not least of which was the embarrassing setback for Brand when a large number of his colleagues deserted him and refused to allow the demolition or removal of the arch from the old Pensioners' Barracks that stood between the newly constructed eastern façade of Parliament House and a vista down St Georges Terrace. Early manifestation of the nationwide economic problems of the 1970s contributed to the Brand government unexpectedly losing office by one seat in 1971. Nevertheless, three years later Charles Court (later, Sir) led the Coalition back to power in an election strongly influenced by the growing unpopularity of the Whitlam federal Labor government and the impact of its policies on state-based resource development projects. During Sir Charles's eight years as premier, conflicts continued with the Commonwealth, even with a federal coalition government in power. The Court government fought, and to some extent won, the battle over access to the wealth generated from offshore mining activity, but relations reached their nadir at the beginning of the 1980s during the widely publicised Noonkanbah affair, when the premier forcefully asserted the government's right to require drilling for oil on sites deemed sacred to Aboriginal people. Viewed in retrospect, the Court government might be said to have won the battle to drill for oil on the Noonkanbah Station in the Kimberley, which had been transferred to Aboriginal ownership in 1975, but in the longer run it lost the war. As it was, in 1980 the government transferred to itself the mining rights for the property and used a military-style convoy to escort the drilling rigs on the long journey north against a background of domestic and even international television coverage. However, no commercial oil deposits were discovered on the station and a series of courtroom battles eventually culminated in the acceptance of the concept of Aboriginal land rights in the High Court Mabo decision in 1992.

Within the coalition the alleged dominance of the premier led to a major split in the former Country Party. This left two separate parties in existence from 1978 to 1984, the National Country Party and the National Party of Western Australia, after which the two parties were reunited, albeit with some defections to the Liberal Party. More broadly, on the social front the Court government clashed with the union movement and other activists over legislation designed to restrict public meetings and demonstrations, and there were also widely publicised internal wrangles within the governing parties concerning such issues as the moving of intellectually disabled children away from Tresillian Hospital in the premier's own electorate and the closing of the Perth–Fremantle railway. On the other side of the ledger, Sir Charles vigorously pursued the development of sources of energy, culminating in him being able to retire at the beginning of 1982, having achieved the necessary agreements for the development of the rich North-West Shelf natural gas deposits. However, a year later, amid a nationwide recession, the Coalition, led by Ray O'Connor, Court's deputy since 1980, was swept out of office by a rejuvenated Labor party, led by thirty-six-year-old former journalist Brian Burke.

The more than twenty years that followed are evidence both of the potency of new issues and the persistence of the old. Burke's five-year ministry was marked by social change—including the abolition of capital punishment in 1984 and the completion, by 1983, of the process of fully enfranchising the Aboriginal population—but also by an odyssey into direct government involvement with business, very different from the form of state ownership adopted by Scaddan. The term 'WA Inc.' was applied to a network of relationships between members of the government and a clique of self-made businessmen and their ventures designed to foster new enterprises in resources and energy and to reduce government dependence on

traditional sources of revenue. Instead, the failure of many of these ventures following the stock-market slump of October 1987 led to stringent economy measures, extensive legal action and the defeat of the Lawrence Labor government in 1993. Against this background, the legacy of the WA Inc. controversy and excesses has provided an important cautionary tale for subsequent governments of both political persuasions, despite the failure of succeeding governments to implement most of the recommendations resulting from a Royal Commission appointed by the Lawrence government, and the consequent Commission on Government appointed by the Liberal–National government led by Sir Charles's son Richard Court. Nevertheless, resource development, especially in the north of the state, has remained the watchword for all governments, and despite an ongoing controversy in the 1980s over the take-or-pay State Electricity Commission's contract with the North-West Shelf joint venturers, and problems arising early in the twenty-first century from the privatisation of the gas line to the south, the state has been able to enter into huge developmental projects built around natural gas.

On the other side of the coin, all governments since 1983 have had to grapple with the ever-increasing political potency of environmental issues and those arising from land rights for Indigenous people, while a variety of accountability agencies have played active roles in the aftermath of the WA Inc. controversies. A further difficulty for governments has been the capacity of the mass media to foster populist reactions to government decisions, as was the case for the Gallop and Carpenter Labor governments after 2001 with issues like a proposed premium tax on property, the introduction of public funding for elections, decisions to close hospitals and issues related to an outcomes-based education system. A more traditional set of issues prominent over recent decades has concerned the nature of the electoral system

and the state's constitution, including ongoing debates over the entrenching of various sections of the constitution by the Court government in 1978 and the desirability of consolidating the state's two constitution Acts. In 1987 the Burke government introduced proportional representation for Legislative Council elections, which in turn, from 1993, precipitated debates over the future role of that House following the election of representatives from minor parties, including the Greens, Australian Democrats and (for one parliamentary term) One Nation. An equally significant change to the state's electoral system came, though only after numerous setbacks in parliament and the courts, when the Gallop government, in the wake of its re-election in 2005, secured the passage of legislation providing for Legislative Assembly seats to be redistributed in substantial measure on the basis of 'one vote, one value'. **David Black**

See also: Australian Labor Party; Constitution; Convicts; Country (National) Party; Electoral system; Federal movement; Foundation and early settlement; Governors; Liberal Party; Noonkanbah dispute; Parliament; Royal Commissions; Secession; WA Inc.
Further reading: D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991); B. Oliver, *Unity is strength: a history of the Australian Labor Party and the Trades and Labour Council in Western Australia, 1899–1999* (2003); C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Pollution is commonly defined as the contamination of air, water or soil by the introduction of mostly man-made foreign substances in amounts that affect the environment or health. Pollution can be local, often from a point source, such as a drain or a chimney, or global, such as the emission of carbon dioxide that contributes to climate

change. In addition, sounds of a level causing inconvenience and discomfort are defined as noise pollution.

Pollution of the environment has occurred in Western Australia from the earliest days of European settlement. Early cesspools were dug next to wells, thus polluting drinking water and causing illness. Pollution from mining and emerging industry had an early impact on colonial health. Workers were exposed to a wide variety of air pollutants, including lead and coal dust, as well as particulate and other emissions from burning coal for heat and energy. However, urban development, with its associated waste, industrial and vehicle emissions, has been the most obvious cause of increasing air, soil and groundwater pollution. The intensity and scale of this pollution has accelerated since the 1950s, as has the awareness of the associated health and environmental impacts.

What would now be considered pollution was, in early health legislation and in the WA *Health Act* (1911), defined as a 'nuisance'. The definition of 'nuisance', initially a bad smell, was broadened over time. Under the 1964 *Clean Air Act*, 'air pollution' continued to be the responsibility of health authorities. However, in 1986 the *Environmental Protection Act* consolidated pollution control powers for air, noise, water and waste into one Act under the control of the Department of Environmental Protection. This Act remains the primary vehicle for controlling pollution, with tools such as standards, licences, enforcement and environmental protection policies. The fact that pollution under the Act was broadly defined but narrowly interpreted saw the addition of the offence of environmental harm included in the *Environmental Protection Amendment Act 2003*.

The *Contaminated Sites Act 2003* seeks to address the legacy of industrial contamination of soil and groundwater. It provides for the identification, recording, management and remediation of the many thousands of contaminated sites. Perth's *Air Quality Management Plan*, released in 2000, provides a comprehensive thirty-year plan to maintain Perth's air quality. There is increased knowledge of the nature of the problems facing the Swan and Canning rivers, but action in responding to them often seeks a quick fix rather than addressing the cause of the problem. Ongoing financial and other government support for initiatives such as Perth's Air Quality Management Plan and the Swan–Canning Cleanup Program will be required over many years to address a legacy of air, water and soil pollution. Legislative and other initiatives are all based on a realisation that pollution has both environmental and health impacts. They also rely on broad involvement of the community in the implementation of the solutions. **Sue Graham-Taylor**

See also: Conservation and environmentalism; Public health; Rivers, Avon, Swan, Canning; Water management

Further reading: S. Graham-Taylor, 'Myth and reality: the quality of Perth's air', in A. Gaynor, M. Trinca and A. Haebich, *Country: visions of land and people in Western Australia* (2002)

Polocrosse can be described as a combination of polo, lacrosse and netball. The game is played on horseback with racquets used to scoop up the ball and score goals. Two teams of six players compete on a rectangular field with one umpire to referee. Each team is divided into two groups of three, who play alternately for a maximum period (a chukka) of eight minutes. One match usually comprises six or eight chukkas.

Polocrosse was first played in Sydney in 1939, and was introduced to Western Australia a decade later. The first WA polocrosse club was established at Kojonup by Bob Russell, and the first polocrosse exhibition match in WA was staged there in 1950. The Polocrosse Association of Western Australia (PAWA) was formed the following year. In 1952, WA was divided into three associations:

the Northern, Great Southern and South-West zones. Following the affiliation of PAWA with the Polocrosse Association of Australia in 1956, WA was later divided into five zones: Great Southern, South-West, Central, Eastern and Mid West (formerly Northern).

The WA polocrosse season runs from July to December. National championships are conducted every second year around Australia on a rotational basis. **Jane Leong**

See also: Equestrian sports

Poor houses in colonial Perth served as places of shelter for destitute men, women and children and for recently arrived immigrants. The Perth Poor House also served as a lying-in home for over fifty years. However, the provision of outdoor relief, in the form of either money or food, usually catered for the majority of those who were destitute. In 1851 a Servants' Home was established by a voluntary organisation 'for servants out of place who have no parents or friends to receive them'. The government took responsibility for this home later that year and moved the inmates to a building on the corner of Goderich (later Murray) and Pier streets. This was a multi-purpose building called, variously, the Home, the Female Immigration Depot or the Poor House. In 1866, after some structural changes, the paupers and immigrants were housed in separate buildings on this site, while a cottage in the grounds was used as a lying-in home.

From the end of the 1860s most of the children in the Poor House were gradually removed to the orphanages being established by the Anglican Church and the Roman Catholic Church, although there were always some children in the Poor House with their mothers for short periods.

In 1869 the Imperial government handed over to colonial authorities the buildings formerly used to house convicts, including the Mount Eliza Convict Depot. This building became the home for male paupers, the majority of them old men who had been Colonial or Imperial convicts. It was referred to as the Depot, the Mount Eliza Invalid Depot or the Mount Eliza Poor House.

The government published a set of regulations about the management of poor houses in the *Government Gazette* in 1877, revealing that no visitors were allowed and that certain rules about bedding and food had to be adhered to very strictly. Contemporary descriptions of the poor houses and inquiries into their management reveal a high level of physical discomfort because of inadequate buildings and overcrowding. While people who broke the rules were sometimes expelled, there is little evidence of any deliberate cruelty or abuse of the inmates.

In 1889 there were 2,750 people receiving some sort of outdoor relief from the government, while there were 31 women and 14 children housed in the Perth Poor House and 121 destitute men at the Mount Eliza Poor House. Increasingly, the poor houses were places for the very old and infirm. In 1890 the eventual site of Sunset Hospital was declared an A-class reserve, and in 1904 the area was specifically designated 'the Old Men's Home'. The Mount Eliza buildings were sold in 1908, except for one building removed to Sunset Home. The old Lunatic Asylum at Fremantle became the 'Women's Home' in 1909, with the section fronting onto Ord Street reserved for expectant mothers. By the 1920s there were between five hundred and seven hundred inmates in the Old Men's Home and ninety in the Women's Home.

Although these 'homes' were no longer officially designated 'poor houses', the nineteenth-century pattern of government assistance continued into the early twentieth century. From the 1890s some private organisations, usually with the backing of churches and ultimately with government support, also began to offer assistance of various kinds. Gradually, the increase in state revenue from the introduction of income taxation, the

establishment of a minimum wage and the provision of old-age pensions laid the foundation for the modern welfare state. **Penelope Hetherington**

See also: Aged care; Homelessness; Migrant reception; Orphanages; Poverty; Welfare
Further reading: M. Aveling (ed.), *Westralian Voices* (1979); R. Erickson, *The bride ships* (1992); E. Willis, 'Protestants and the Dispossessed in Western Australia', *Studies in WA History*, 9 (1987); A. T. Whyntie, *The history of Sunset Hospital* (1999)

Popular music News of the latest popular music in London and elsewhere was eagerly sought by the early colonists. As the years progressed and tiny settlements appeared all over the colony, Negro minstrel shows, in which participants appeared with cork-blackened faces, were a popular form of public entertainment. Towards the end of the nineteenth century there was a dramatic increase in the number of touring companies who included 'the West' in their schedules. Vaudeville provided sound financial returns and the well-known entrepreneur Harry Rickards acquired leases on theatres in Perth and Kalgoorlie. Local audiences became well-acquainted with ragtime, cakewalks and so-called 'coon' songs. In 1905 Allans of Melbourne published the jubilee and plantation songs of the Fisk Jubilee Singers, frequent visitors to Western Australia.

The decision of the Young Australia League to form a Minstrel Club in 1910 was to have far-reaching effects for music in this state. Three vaudeville tours each year, in addition to the brass-band tours, provided a sound preparation for those boys who later became professional musicians. There was steady employment for musicians in the pit of the many theatres which emerged to cater for the ever-increasing demand for silent pictures. Just before the First World War, the Tivoli Theatre in Hay Street, and others like

it, attracted large audiences for its Tango Teas. During the late 1920s lavish entertainments were provided during the intervals at this theatre (renamed the Luxor), The Ambassadors and the Capitol Theatre in Perth. This type of entertainment ended with the 'talking movies', and many musicians were put out of work.

However, from the 1920s onwards, jazz (featured in the new radio-station programs) fuelled an interest in public dancing. Ron Moyle of 6WF conducted the jazz orchestra at the Cremorne Dance Hall each Saturday in direct broadcasts. Charles Sheridan's Jazz Band, led by father and then son of the same name, appeared at a number of venues, as did Colin Smith's band. Betsy Spigl, Doreen D'Arcy, Em Riley and Leoni 'Dot' Salter were leaders of mixed bands who competed successfully with the men for engagements, while May Salter started an all-girl band. Effie Roffman, Melva Brown, Sylvia Caporn and Hillary Holmes were all good dance pianists. Dancing venues included the Piccadilly Ballroom, the YAL, St George's Hall and Clothiers Dance Hall. The Indiana Tea Rooms, a tin shed on Cottesloe Beach, and the Arcadia Tea Rooms at Nedlands were popular drinking and dancing venues during summer.

Because of the isolation of the state, jazz recordings were avidly collected. Ken Murdoch and Merv Rowston became well known for their record collection, and The Westralian Modern Music Club, which they started in 1934, was one of the first clubs of its kind in Australia.

In Perth during the Second World War, the fine playing of visiting Americans Warrant Officer Johnny Turk and his fifteen-piece band inspired many local musicians who found work in the nightclubs and dance halls that sprang up in the city and Fremantle. Drummer Alby Tuckfield remembers playing in Fremantle at the Victoria Hall, the North Fremantle Town Hall and the Rex Cabaret. Public taste shifted to an interest in the big bands.

Having had experience with top bands in London, Western Australian-born trumpeter Sammy Sharp returned home in 1946, followed by pianist Abe Walters. Sharp formed an excellent thirteen-piece band at the Embassy Ballroom. He used orchestrations and big-band arrangements by well-known overseas musicians and directed Perth's first jazz symphony concert in 1948. In association with Harry Bluck (who conducted radio sessions on the ABC and commercial stations and was bandleader at the Pagoda), he also organised Jazz Jamborees at the Capitol Theatre. New ensembles were formed for these annual events that raised funds for the Musicians' Benevolent Society.

A wider divergence of popular music styles became apparent in the late 1940s and 1950s. There was a resurgence of New Orleans traditional and Chicago jazz through the Riverside Jazz Band, the West Coast Dixielanders, and the Westside Jazz Group. At Kings Park, the quartet led by clarinettist Jack Harrison (son of Bill Harrison, a leading band leader in the 1920s and 1930s) attracted great support, as did country and western music and square dancing with Harry Bluck and his band at Anzac House. The radio was still a favourite avenue for popular music. The ABC's 'Time Off for Fun' show featured The Tritoffs' Trio with Phyl Frost (later replaced by Joan Franklin and then Dorothy Lupton), Kath Bass and Olwyn Thomas. The younger generation of 'bodgies' and 'widgies' crowded the Snake Pit at Scarborough Beach for their rock-and-roll, while ballroom dancing continued at Canterbury Court, where Norm Wrightson played, and the Embassy, until these buildings were demolished in the mid 1980s. **Brian Bursey and Jean Farrant**

See also: Aboriginal music; Night-life; Rock music; Young Australia League; Youth culture
Further reading: A. Bisset, *Black roots, white flowers: a history of jazz in Australia* (2001); J. Davidson, *A showman's story–the memoirs* *of Jim Davidson* (1983); R. Hughes, *Daddy's practising again–an Australian jazzman looks back and around* (1977); K. Murdoch, 'An Era of Jazz in Perth', *P. J. S. News*, 1, 10 (1974)

Population At the end of 1829 there were only about one thousand Caucasian persons in the colony of Western Australia. Thereafter, population growth was slow, inhibited mainly by the poor quality of land and lack of capital. By mid-century, when the population was still a mere 5,886, it was supposed that numbers could be increased by the introduction of both transportation of convicts and assisted migration. Both were initiated in 1850 and remained in force until 1868. By 1870 the population had reached 25,135. However, because only male convicts were permitted entry, the masculinity ratio (males per 100 females) had increased to 161:17. The rate of population growth, though positive, was therefore slower than administrators had hoped.

After 1870 the population grew slowly, reaching 29,708 at the census of 1881. Yet the masculinity ratio had declined to 134:92 with the termination of transportation, the departure of many ex-convicts to the eastern colonies and the introduction of small numbers of single women through government immigration schemes. It was in this still quiescent society that the gold rush exploded. The population rose to 49,782 in 1891 and 184,124 in 1901.

Equally dramatic was the increase in ethnic diversity: 89 different birthplaces in 1891 compared with 135 in 1901. Most arrivals came from eastern Australia, notably Victoria and South Australia, and by the end of the century WA-born persons were a minority in their own state. Masculinity also increased, especially on the goldfields, because most of the early arrivals were males, but it rapidly declined as wives and families joined their menfolk.

Another demographic impact of the gold rushes was the scattering of the population. During the early years of the nineteenth century, settlers were grouped largely in the South-West region, whereas by 1900 there were small communities hundreds of miles apart in all corners of the colony.

Population grew steadily through natural increase and migration during the first three decades of the twentieth century, reaching 431,610 in 1930. Thereafter, the Great Depression and the Second World War so reduced the birth rate and immigration that population barely rose. The total population reached half a million in 1947, but the postwar baby boom and immigration in the late 1940s and early 1950s created a population growth which rivalled that of the 1890s. The driving force for further rapid population growth was again derived from mining, though not of gold. From the mid 1960s, development of iron, nickel, bauxite, mineral sands, coal and common salt occurred on a large scale, creating a labour market that drove net migration to exceptional levels. By 1970 the population had reached one million, followed by a steady annual growth that increased numbers to 1,959,086 in 2006. Population dispersal also quickened, and towns in the mining areas, such as Newman, Paraburdoo, Tom Price, Dampier, Karratha and Port Hedland, became important urban centres. Perth remained the largest town, gaining by both natural increase and migration, its population reaching 1,445,078 in 2006.

During the last quarter of the century there has been a significant ageing of the state's population, the median age having increased from thirty-one years at the 1991 census to thirty-three years at 1996 and thirty-four years at 2001.

From earliest times, UK-born have been the largest group in Western Australia's population. In 2006, with 207,644 out of a total population of 1,959,086, they are still the most numerous ethnic group. The Australia-born population has progressively declined: 70.9 per cent in 1986; 69.5 per cent in 1991; and 67.8 per cent in 2001.

The Indigenous population has not always been consistently enumerated. Prior to 1971, full-blood Aboriginal persons were excluded from censuses. However, since then all persons of Aboriginal descent, whether full-blood or not, have been included and their numbers have increased, rising from 41,769 in 1991 to 50,793 in 1996 and 58,711 in 2006. **Ian vanden Driesen**

See also: Census; Citizenship, Aboriginal
Further reading: R. Appleyard and L. Baldassar, 'Peopling Western Australia', in R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004); I. vanden Driesen, *Essays on immigration and population in Western Australia 1850–1901* (1986)

Port Hedland, 1,660 kilometres north of Perth, covering 11,344 square metres, is a major port in the Pilbara region. With a population of 1,500, the town comprises Port Hedland, South Hedland and the Wedgefield Industrial and Boodarie Strategic Industrial areas and offers easy access to Millstream and Karijini national parks. It has a sub-tropical climate and is subjected to occasional cyclones. Its main export industries are processed iron ore, salt from local evaporation ponds, minerals such as manganese, and livestock. The annual export tonnage handled by the Port Hedland Port Authority for corporations like BHP Billiton and Mt Newman Mining Company exceeds 70 million tonnes of product worth more than $3 billion. Until June 2004 it was the location of the Port Hedland Detention Centre for refugees, which attracted considerable attention from the United Nations Human Rights Commission.

As the traditional homeland of the Karriyarra people, the area was known as Marapikurrinya, denoting the hand-like formations of the tidal creeks dissecting

the mangrove swamps around the harbour. There are examples of Aboriginal art in situ and Indigenous artifacts are displayed at the Courthouse Arts and Gallery Centre. The locality was renamed in 1863 for Captain Peter Hedland, who manoeuvred the cutter *Mystery* through the narrow entrance channel. The first European enterprises, pearling and pastoral activities, attracted Japanese and Chinese immigrants. Shipments of gold for export were sent by rail from Marble Bar between 1912 and 1952, when the railway was closed. Port Hedland was placed under military control in 1942 after being bombed by the Japanese Air Force; several pearl luggers were damaged.

Beginning in 1946, Aboriginal pastoral workers led by Donald McLeod staged a three-year strike to improve working conditions. This was arguably the beginning of the land rights movement. More recently, Port Hedland won a Council for Aboriginal Reconciliation National Award. South Hedland is an Aboriginal regional administrative (Department of Aboriginal Affairs; Aboriginal and Islander Committee) and institution centre (Pundulmurra College; the Pilbara Aboriginal Land Council; the Wangka Maya Pilbara Aboriginal Language Centre; Pippingarra Pastoral Company). **Wendy Birman**

See also: Aboriginal administration; Aboriginal labour; Cyclones; Iron ore; Pastoralism; Pearling; Pilbara; Pilbara strike; Salt; Second World War
Further reading: D. Horton (ed.), *The Encyclopaedia of Aboriginal Australia: Aboriginal and Torres Strait Islander history, society and culture* (1994); www.porthedland.wa.gov.au

Ports With a coastline of over 12,500 kilometres and, until the second half of the twentieth century, a lack of adequate alternative transport to the more remote parts of the state, WA has depended on shipping and ports for the transport of people and goods.

The ports have ranged from minor ones with simple jetties serving coastal shipping and fishing vessels to major deepwater ports serving international shipping. The fortunes of the ports have waxed and waned over time and some, such as Cossack, are now defunct.

The South-West ports serve the most densely populated area of WA. Albany, with its fine natural harbour, was an ideal location for the colony's first port and, from 1852, was the port of call for the mail steamers that refused to call at Fremantle's exposed jetties. The mail was unloaded and sent by small coastal vessels to Fremantle. However, Fremantle and Perth interests persuaded the government to develop Fremantle as the colony's major port. After detailed investigation, C. Y. O'Connor, the colony's engineer-in-chief, blasted the rock bar blocking the entrance to the Swan River and built a safe and modern Inner Harbour, which was officially opened in 1897. After some additional inducements were offered, the British mail steamers switched to Fremantle in 1900; this, and the development of a railway network designed to funnel the state's freight through Fremantle, dramatically reduced Albany's importance as a port.

Fremantle quickly became the state's major port, handling a diversified range of exports and most of the imports into WA. The development of the Outer Harbour in the mid 1950s provided Fremantle with a deepwater port that specialised in the handling of bulk cargoes such as petroleum products and grain. In the late 1960s container-handling facilities were constructed in the Inner Harbour and, to this day, Fremantle maintains a monopoly of the state's container trade. In 2001–02 its trade was valued at $13.5 billion, or about 7.3 per cent of the Australian total.

Other ports, such as Albany, Bunbury, Esperance and Geraldton, have historically served as outlets for primary exports such as grain, timber and wool. However, since the 1970s the trade of these ports has been expanded by the addition of exports of bulk mineral products. Bunbury, for example,

exports mineral sands and alumina, and in 2002–03 handled 12 million tonnes of cargo, or about one half of the volume handled at Fremantle.

The mineral boom of the 1960s had an enormous impact on the Pilbara ports. Port Hedland was transformed from a sleepy backwater to a major port, capable of efficiently loading iron ore into huge bulk carriers; private companies built similar ports at Dampier and Port Walcott. In 2002–03 Dampier handled 92 million tonnes of cargo and accounted for about 15 per cent of all Australia's imports and exports, making it Australia's largest port (by weight).

The Kimberley ports of Broome, Derby and Wyndham developed during the nineteenth century to serve the isolated and sparsely populated northern parts of the colony, subsequently the state. The subsidised vessels of the State Shipping Service (founded in 1912 and renamed the Western Australian Coastal Shipping Commission in 1965) carried passengers and freight on regular services to the North-West, but by the late 1960s competition from road and air transport had severely cut demand. The last paying passenger stepped off the *Kangaroo* at Fremantle in March 1973, but the freight service struggled on until axed by the government in 1995. While Broome has long been important as a centre of the pearling industry, cargo tonnages from the Kimberley ports have never been large. However, the meat trade and the offshore oil and gas industries have generated increasing traffic.

Although the handling of bulk cargoes has been close to world best practice, there has been longstanding criticism of the efficiency of container handling. The federal government began a radical program of microeconomic reforms in the 1980s that have led to substantial improvements in labour productivity. Port management, which used to be rather inward-looking, has also been reformed and now operates in a more commercial manner. In 2002–03 Western Australia's ports handled about 220 million tonnes, or 36 per cent, of Australia's seaborne trade, and thanks to the reforms did so more efficiently and profitably than in the past. **Malcolm Tull**

See also: Albany; Cossack; Derby; Fremantle; Geraldton; Infrastructure and public works; Jetties; Merchant shipping; Port Hedland; Wyndham

Further reading: D. A. Cumming, D. Garratt, M. McCarthy and A. Wolfe, *Port related structures on the coast of Western Australia* (1995); L. Johnson, *Albany: port with a past and future* (1997); P. L. Ridgway (ed.), *Minor ports of Australia* (1988); M. Tull, *A community enterprise: the history of the Port of Fremantle, 1897 to 1997* (1997); J. Willinge, *Full steam ahead. Bunbury Port Authority 1909–99* (1996)

Postage stamps were first issued in the colony of Western Australia on 1 August 1854. Three values—1d, 4d and 1s—each depicting a swan, rather than the customary Queen Victoria, were issued. The 1d value was engraved in London and the 4d and 1s values were lithographed in the colony.

A replacement 4d printing stone was required in 1855, and, when making it, the frame of one impression on the 'Intermediate Stone' was inadvertently transferred upside down, resulting in the so-called '4d Inverted Frame' variety, one of the world's charismatic stamp rarities. Fifteen of the 388 printed have been recorded, all postally used.

Twopenny and sixpenny values were lithographed locally during 1857–59 before engraved 2d, 4d, 6d, and 1s printing plates were ordered from London in 1859. New surface-printed values of 3d and a half-penny were introduced in 1871 and 1885 respectively, and from 1889 all values were surface-printed.

At Federation the colonial postal department was taken over by the Commonwealth. New stamps and values were printed in

Melbourne and issued from 1902. The late Queen Victoria was belatedly depicted on the 2s to £1 values! Stamps inscribed Western or West Australia, although replaced by Commonwealth stamps from 1913, retained their postal validity until decimalisation in 1966.
Brian Pope

See also: Aviation; Postal services
Further reading: B. Pope, *The philatelic collection of the Western Australian Museum* (1991); B. Pope, *Western Australia: The 4d Lithograph, 1854–1864* (1984); M. Hamilton and B. Pope (eds), *Western Australia: the stamps and postal history* (1979)

Postal services commenced in Western Australia on 4 December 1829 with the appointment of Daniel Scott as 'Postmaster for the Colony' in addition to his duties as Deputy Harbour Master at Fremantle. Scott was replaced in May 1830 by Lionel Samson at Fremantle and James Purkis in Perth. The first postal legislation, *5 William IV No. 5*, was enacted on 31 December 1834, and by October 1835 Albany, Guildford and Augusta also had post offices. These early appointments were all part-time.

A more professional approach was introduced by Governor Hutt, and in March 1840 Edward Picking was appointed full-time Postmaster at Perth. He and his successor, Henry Camfield, were addressed as Postmaster-General (PMG) from June 1841. By 1847 new post offices had been opened at Australind, Bunbury, Canning, Mandurah, Northam, Pinjarra, Toodyay, Vasse and York, and, in July of that year, Anton Helmich became PMG and held the position for forty years.

Unsupervised Aboriginal prisoners were employed to carry mail between Fremantle and Bunbury in 1848, and later from Perth to Guildford and through the Avon Valley. The introduction of convicts in 1850 stimulated the economy and, while the population more than doubled in the period 1850–54, the number of private letters posted increased more than four-fold. The heavier loads made it increasingly difficult for Aborigines to cope on foot, and their employment was phased out.

In June 1852, Governor Fitzgerald asked the Colonial Office to approve the issue of adhesive postage stamps for the colony and, surprisingly, these were to depict a swan rather than the conventional image of Queen Victoria. His request was granted: three values—one penny (black), four pence (blue) and one shilling (red-brown)—all showing a swan, were issued on 1 August 1854. Postcards with a swan indicium followed on 1 May 1879.

Being a postmistress was socially acceptable, and many women followed Sarah Lyttleton's pioneering example at Albany in 1834. Remuneration, mostly part-time, was generally the same as for postmasters, and forty years later, during 1874, postmistresses outnumbered postmasters. The wives and daughters of policemen were well represented from the 1860s to the 1880s.

Helmich retired in 1887 and was replaced by a British import, Charles Gahan, who took office on 29 June 1887. Gahan died unexpectedly in 1889 and a local bureaucrat with postal experience, Richard Sholl, was appointed Acting PMG on 1 May 1889 and confirmed as PMG on 31 July 1889.

The Commonwealth assumed control of all postal matters on 1 January 1901, and the first PMG was Sir John Forrest from WA who held the portfolio between 1 and 17 January 1901. The Colonial Post and Telegraph department was formally transferred to the Commonwealth on 1 March 1901, and Sholl became a deputy PMG. Constitutional and political considerations delayed full interchangeability of state postage stamps until 13 October 1910, uniform postal rates until 1 May 1911, and an Australia-wide stamp issue until 1913.

The first contract for the carriage of mail by air within Australia was awarded

to Western Australian Airways for a service between Geraldton and Derby, commencing on 5 December 1921 and eventually extending from Perth to Darwin. The same company won the contract for the Perth–Adelaide route in June 1929, and a number of regional airmail services were established during the 1930s. Regular international carriage of mail by air to and from Australia commenced in December 1934 and eventually supplanted sea mail.

The first post office in the colony was established at Fremantle on 4 December 1829 in the hulk of the *Marquis of Anglesea*. The precedent of improvising post office premises was followed for the next fifty-five or so years, and many post offices operated in private residences, shops and hotels, while others were in police stations or shared government buildings.

Purpose-built post offices with residential quarters began to appear in the mid 1880s following the arrival of George Temple Poole as 'Superintendent of the Public Works Department of the Imperial Service in Western Australia' in June 1885. These included elegant designs such as Claremont, Gingin and Pinjarra. A new General Post Office at the corner of Barrack St and St Georges Terrace was opened for business on 29 August 1890. Some grand post offices, such as those at Northam and Kellerberrin, were built by the Commonwealth. The grandest of them all, a new General Post Office, was opened in Forrest Place on 26 September 1923. Thereafter, with the exception of some individual designs such as Nedlands, post office buildings became more utilitarian.

On 1 July 1975 the PMG Department was replaced by two Statutory Commissions operating as Australia Post and Telecom respectively. Many postal premises have since been sold and replaced by postal agencies under contract in shopping centres and at other commercial sites. Many post offices now have a sizeable retail format and function. **Brian Pope**

See also: Aboriginal labour; Aviation; Communications; Postage stamps; Transport
Further reading: M. Hamilton and B. Pope (eds), *Western Australia: the stamps and postal history: a guide to its philately* (1979); B. Pope, 'Postal services in Western Australia, 1826–1901', Masters thesis, Murdoch University (1989); B. Pope, 'Aboriginal message and mail carriers in South Western Australia in the early and mid-nineteenth century', in B. K. de Garis (ed.), *Portraits of the south west: Aborigines, women and the environment* (1993)

Poverty has been a persistent feature of Western Australian society since the beginning of European settlement. The experiment in free-enterprise colonisation, begun in 1829, initially failed to produce the anticipated returns on investments in land, labour and capital, so that most settlers struggled for some years to provide for life's necessities. When prosperity was eventually attained, poverty became confined to an unfortunate minority: Aboriginal people, the unemployed, the aged, the ill and disabled, widows and single mothers and other social outcasts. Convict transportation and schemes for importing pauperised youths brought to the colony a mere fraction of the impoverished masses of Britain and Ireland, but these forced immigrants boosted the economy and thus faced a brighter future than they had in the Old World. The colony's powerful also imported traditional beliefs that destitution was often a self-inflicted condition, together with accompanying distinctions between the 'deserving' and 'undeserving' poor, and these ideas shaped the forms of welfare adopted in WA. Private charity and government subsidy financed a poor house, opened in 1854, where inmates could work in return for food and shelter; orphanages and old people's homes were founded in later years, through funds provided by the major churches; and in 1870 the first 'benevolent home' was opened

for the care and reform of 'fallen', or single and pregnant, women. A more progressive approach to social welfare developed after 1901, when the new federal parliament legislated for aged pensions, maternity allowances and workers' compensation, and tariff protection, immigration restrictions and industrial arbitration; in WA important social reforms were undertaken by the government of Walter James (1902–04), though both tiers of government fell well short of permanently eradicating poverty.

The Great Depression of the early 1930s inflicted poverty on more Western Australians than ever before. Geoffrey Bolton's minor classic *A Fine Country to Starve In* details how reliance on the meagre provisions of the sustenance dole or the kindness of family, friends and neighbours was a common experience for families in Perth and the suburbs, on farms in the Wheatbelt or on the group settlements in the South-West, and in mining towns from Collie to Kalgoorlie. Postwar prosperity again confined poverty to the socially marginalised; to visit the poor in the 1950s meant a visit to the state's own 'skid row' in East Perth, or to a fringe-dwellers' camp in the Swan Valley, or the homes of elderly pensioners and single parents in the suburbs and country towns. The decade between the publication of John Stubbs' *The Hidden People* in 1966 and the release of the Henderson Inquiry's report into poverty in 1976 witnessed the 'rediscovery' of poverty by the complacent majority of the 'Lucky Country'. In WA, a parochial historiography dominated by successful figures and themes of progress was powerfully challenged during the late 1970s by Tom Stannage, who remains the finest historian of nineteenth-century poverty in Australia. But economic restructuring in the 1980s and beyond left the poor more marginalised than perhaps at any time previously while, politically, their plight became less important than ever. **Joseph Christensen**

See also: Feeding depots; Fringe dwellers; Homelessness; Karonie feeding depot; Orphanages; Poor houses; Welfare
Further reading: G. Bolton, *A fine country to starve in* (1972); C. W. Collins, 'Matters of social conscience: Western Australia 1829–1890', *University studies in history*, 5 (1968); C. T. Stannage, *The people of Perth* (1979); C. T. Stannage, 'Uncovering poverty in Australian history', *Early days*, 7 (1976)

Power stations Electrical energy was first used in WA in the 1880s and in the following years a small number of generating plants were set up. In 1912 the government decided to construct a major power station on the banks of the Swan River at East Perth to meet all Perth's electrical energy needs. Work commenced in 1913 and the first of the three generating units of four megawatts each was commissioned in December 1916; all three were in operation by May 1917.

East Perth Power Station was designed in Britain, and William H. Taylor came to the state to oversee the installation of its first generating units. He stayed and became responsible for the power service, including installation of increasingly powerful generating units as the demand for electrical energy increased. He designed extensions to accommodate two new generating units and then Station B at East Perth to accommodate a new 25-megawatt generating unit commissioned in December 1938. During the Second World War, Taylor and a small design team planned a new power station at South Fremantle to accommodate four 25-megawatt generating units. Work commenced on it in 1945 and it was officially opened in June 1951.

Taylor believed electricity was a major force in industrialised societies and the buildings in which it was generated should demonstrate that importance. He designed them on a monumental scale as cathedrals to power. The South Fremantle Power Station was designed on a grand scale, built like a

fortress and awesome in comparison to the East Perth station. However, after Taylor's retirement, the State Electricity Commission (SEC) became much more circumspect in its design philosophies, so the major power stations constructed later at Bunbury, Kwinana and Muja were, architecturally, little more than large sheds designed to protect equipment from the weather. Even so, the sheer size of the new generating units (some up to 200 megawatts in capacity) and the associated equipment meant the structures were many storeys tall and vast inside so they were nonetheless impressive structures with huge spire-like chimneys.

The East Perth Power Station was closed in December 1981 and South Fremantle in September 1985. Both remain standing due to their heritage significance, but by the end of the century their future use was still undecided.

The government utility, Western Power, the successor to the SEC, currently operates coal-fired power stations on the Collie coal field and other stations fired by North-West Shelf gas. Some of the larger mines in the Pilbara and eastern goldfields also use gas to generate power supplies. Future developments will depend on greenhouse-gas regulation and further expansion of gas pipeline capacity.
Leigh Edmonds

See also: Coal; Infrastructure and public works; Oil and gas
Further reading: L. Edmonds, *Cathedrals of power: a short history of the power-generating infrastructure in Western Australia 1912–1999* (2000)

Presbyterian church Members of the Presbyterian churches of Britain, particularly Scots, were among the earliest settlers in Western Australia. The Drummond family, for example, pioneers of the Avon Valley, arrived on the *Parmelia* in 1829. Presbyterians were also important pioneers at Augusta (Georgiana Molloy), Australind (John and Isabella Ferguson) and King George Sound (George Cheyne). John Dunmore Lang, Australia's first mainland Presbyterian clergyman and founder of the Scots Church in Sydney, visited King George Sound in 1837 and ministered there briefly.

In the early 1850s Daniel Boyd conducted Presbyterian worship for the first time in Perth and Fremantle. According to the 1859 census there were 207 Presbyterians in the colony, rising to 508 in 1870 and 1,004 in 1881. David Shearer (1832–1891), an ordained minister with a background in the Free Church of Scotland, who was sent to Perth in 1879 to minister to the increasing numbers of Presbyterians, was the formal founder of Presbyterianism in WA. Congregations were also organised at Fremantle (1886) and in Albany (1888). They joined with St Andrew's Church in Perth to found the Presbytery of WA (1892). With the discovery of gold, a rapid increase in the number of Presbyterians from 1,997 in 1891 to 14,707 in 1901 made them the fourth-largest religious group in WA with just over 8 per cent of the population. Congregations were opened on the Eastern Goldfields, in the spreading suburbs of Perth

East Perth Power Station on the Swan River bank, mid 1970s. Oblique aerial photo from the south-west includes old East Perth (now Claisebrook) rail station in right foreground. Courtesy of Western Power (1231)

and Fremantle, in other country towns and rural areas, and a new St Andrew's building was opened in Perth (1906).

Presbyterians played an important role in education in WA. Shearer was chairman of the Perth District Board of Education between 1885 and 1889 and chaired two inquiries into education in WA. His successor at St Andrew's, David Ross, was instrumental in founding Scotch College in 1897 to provide education for Presbyterian boys. The Presbyterian Ladies' College (1910) opened to complement that work. Presbyterians were also involved in the foundation of The University of Western Australia: Professor A. D. Ross, Foundation Professor of Mathematics and Physics, was an elder of St Andrew's Church. A local Theological Hall opened in 1914. Presbyterian missions to Aborigines began in 1912 at Port George IV in the Kimberley, and in 1908 a Nor' West Mission, an important forerunner of the Australian Inland Mission, was established in the Pilbara. The ministry of George Tulloch (1878–1946) at St Andrew's was particularly notable in the first half of the century.

In 1938 a Presbyterian home for girls was established at Byford and a home for boys at Caversham. Braemar Homes for the Aged was established in 1952 and St David's at Mount Lawley in 1955, as well as homes in Katanning. Early efforts towards theological education were not fully coordinated until after 1955 when Frank Nichol became Principal of the Theological Hall, which existed for the purpose of preparing ministers locally for the Presbyterian congregations in Perth.

From the 1950s, substantial numbers of Dutch Presbyterians began to arrive in WA. Language, cultural and theological issues led many of them to become members of the Reformed (later Christian Reformed) and Free Reformed Churches.

In the lead-up to the foundation of the Uniting church in Australia, union was generally supported in WA. In both 1972 and 1973 the Presbyterian Church of WA (PCWA)

recorded the highest votes for church union among Presbyterians anywhere in Australia, and Michael Owen and Ronald Wilson (later Sir, 1922–2005) led the majority into the Uniting Church of Australia (UCA). The 1977 union was not all-encompassing, however, as some theological conservatives dissented. Two streams existed in WA. Both felt unable to be part of the UCA due to their belief that it did not adhere to historic Presbyterian views of the Bible, doctrine, ethics and church order. Andrew Priddle helped organise the Westminster Presbyterian Church (1970), which has grown strongly. Bruce Fraser (1922–1998) and Allan McAuliffe (1927–1994) led five small congregations (out of thirty-eight) who resolved to continue on as the PCWA. The post-1977 PCWA has engaged in parish consolidation and expansion, a substantial social-service ministry and seeks to cover large areas of country WA by Inland Mission patrol ministries. It has also become markedly multicultural. At the 2006 census there were 43,808 Presbyterians in WA. **Stuart McNair Bonnington**

See also: Aged care; Dutch; Education, independent schools; Missions; Scots; Spirituality and religion; Uniting church; Welfare
Further reading: S. Bonnington, 'George Tulloch', in B. Dickey (ed.), *Australian dictionary of evangelical biography* (1994); S. Bonnington, *Beyond the furthest fences: Christ and the continent: the Inland Mission of the Presbyterian Church* (2001); S. Bonnington, *Like a mustard seed: a history of the Presbyterian Church in Western Australia, from 1829 to 1901* (2004); J. Gregory, *Building a tradition: a history of Scotch College, Perth 1897–1996* (1996)

Princess Margaret Hospital for Children (PMH), a paediatric teaching hospital and research centre, was established in 1909 as Perth Children's Hospital Inc. The hospital was renamed in 1948 after Princess Margaret,

sister of Queen Elizabeth II. It remains on its original site at the junction of Thomas and Hay streets, Subiaco. Since 1994 Princess Margaret Hospital has combined with King Edward Memorial Hospital for Women in the field of Women's and Children's Health Services.

In 1897 Perth businessman Charles Moore proposed establishing a hospital for the children of Western Australia, with particular concern for the poor. A sense of community involvement emerged that persists one hundred years later through the fundraising work of the PMH Foundation, established in 1998. Moore invited Perth's business and religious leaders to support the plan, and also involved the community's children, encouraging them to collect pennies for the cause. During the twelve years between Charles Moore's inaugural meeting and the opening of the Children's Hospital in 1909, WA experienced extraordinary population growth. A children's ward, opened at Perth Public Hospital in 1900, proved insufficient for the numbers of sick children needing hospital care. In the early years, infectious diseases, gastroenteritis and pneumonia were major causes of hospital admission, partly due to poor living conditions, but after the Second World War, with the availability of vaccination and antibiotics, these illnesses lessened and were overtaken statistically by accidents and emergencies. PMH now has dedicated departments, including neonatal care, intensive care and centres for a wide range of medical and surgical conditions.

The hospital's school, managed by the Department of Education and Training, provides on-site teaching in cooperation with the children's own schools. Also active at PMH is Radio Lollipop. This international radio network, staffed by volunteers, was established in 1978 to provide activities and entertainment for hospitalised children.

A school of nursing was established at the Children's Hospital in 1909. It closed in 1988, replaced by tertiary studies for

nurses. PMH became a teaching hospital for the newly established Faculty of Medicine at The University of Western Australia when Professor W. B. McDonald was appointed inaugural Professor of Child Health in 1957. The hospital is now an internationally recognised research centre through its affiliation with the Telethon Institute for Child Health, established in 1990, with Professor Fiona Stanley (Australian of the Year 2003) as founding director. **Christobel Bennett**

See also: Child health; Infant mortality; King Edward Memorial Hospital (KEMH); Nursing; Poliomyelitis epidemic; University of Western Australia

Further reading: J. Marshall, *Starting with threepence: the story of Princess Margaret Hospital for Children* (1996)

Prisoner art is a little known yet very important aspect of cultural heritage. It ranges from murals, engravings and graffiti on the built fabric of the prison to drawings, paintings, textiles and performances. The earliest known example in Western Australia is the monochrome frescoes by the forger James Walsh, produced after 1859 in the convict-built Fremantle Prison. Drawn in pencil and fortunately preserved by whitewash, the frescoes depict familiar religious and classical subjects, a kangaroo hunt and possibly a self-portrait. At Rottnest Island (Wadjemup), where the majority of Aboriginal prisoners were held, corroborees played a crucial role in cultural survival. Nyoongar inmate Johnny Cudgel (Gygup) had the opportunity to work creatively with European materials. Cudgel came to attention after he rescued a non-Aboriginal prisoner from drowning. He subsequently received informal lessons from the state governor, Sir Frederick Bedford, who was then in residence on the island. Cudgel's skilful miniatures of sailing ships depicted in pencil, pen and ink, watercolour and gouache are testimony to his considerable talent. In the

Albany Gaol various inmates have engraved into the jarrah boards lining the Aboriginal Cell (used 1872 to 1875). Indigenous subject matter includes totemic animals (a goanna, a lizard and a snake) plus boards with hatched and parallel lines. The tally marks covering much of the cell are the work of European sailors. An engraving of two sailing ships is signed and dated: Albert Erberg, Sweden 1909.

Since the 1970s many Aborigines have gained access to an artistic career through prison. Walmajarri artist Jimmy Pike began painting in Fremantle with teachers Steve Culley and David Wroth, who later established Desert Designs using designs by Pike and other artists. Kimberley artist Jack Wherra learned to carve boab nuts while in prison. Both are now highly acclaimed. For Nyoongar artists Revel Cooper, Reynold Hart and, more recently, Primus Ugle, prison enabled the continuation of a south-western landscape tradition originally established with the Carrolup Native Settlement (1915–1951).

Fremantle Prison is today a focus of prisoner art. It is an historic site of great significance. It contains murals by Indigenous and non-Indigenous prisoners produced in 1991 prior to the decommissioning of the prison. Particularly outstanding are Indigenous wall murals by artists such as Peter Irwin Cameron, Greg Quartermaine, Les Quartermaine and G. O. Woods. Additionally, Fremantle Prison has a gallery for exhibitions of historical and contemporary prisoner art. **Sylvia Kleinert**

See also: Aboriginal art, Indigenous perspectives; Aboriginal prisoners; Carrolup child artists; Fremantle Prison; Rottnest Island Native Prison

Further reading: B. Croft, *South west central: indigenous art from south Western Australia, 1833–2002* (2003); M. O'Ferrall, *Jimmy Pike—desert designs 1981–1995* (1995); J. S. Kerr, *Fremantle Prison: a policy for its conservation* (1988)

Prisoners of war (POWs), enemy soldiers taken captive in battle and interned in accordance with internationally agreed principles, were held in Western Australia during the Second World War. Numbering perhaps four thousand in total, they were mainly Italians captured by Allied forces in the Middle East and subsequently brought to Australia under arrangements made with the British government from 1941. While there were a number of sites linked to the processing and housing of POWs, such as the Wembley facility, operational from June to August 1943, only one permanent POW camp (designated No. 16) was established. Opened at Marrinup, south of Perth, in August 1943, it was a purpose-built compound guarded by military personnel, and it would become the centre of POW administration in WA. The Italians, and later Germans, sent to Marrinup were employed cutting firewood to supply the metropolitan area.

Unlike the enemy aliens with whom they are often confused, POWs had not previously been held in the state on any formalised basis. Some, however, had been picked up at sea and turned over to military authorities by vessels calling at local ports, later to be transferred to camps in the eastern states. Among them were more than three hundred survivors of the German raider *Kormoran*, which was sunk by HMAS *Sydney* off Carnarvon in November 1941. They were detained briefly at Harvey before being sent to Victoria.

From October 1943, Italian POWs were given the opportunity to work unguarded on WA farms. The scheme, which generally saw individuals allocated to an employer who was then responsible for their accommodation and upkeep, was supervised through a network of army-run 'control centres'. Perhaps because it offered participants freedoms long denied them, the scheme was largely a success. During the peak period, in 1945, there were more than two dozen control centres throughout the South-West, each supervising one hundred or more Italian POWs. However,

German POWs were considered temperamentally unsuitable for such employment, and up to three hundred remained under guard at Marrinup.

In early 1946, with the war over, both the rural employment scheme and Marrinup compound were closed down. Some 3,500 prisoners of war were gathered in a temporary camp at Northam to await repatriation. Except for a small number of escapees eager to stay in Australia, the last departed Fremantle on 31 December 1946.

During the First World War, 148 German merchant seamen whose ships had been seized locally at the outbreak of war were held on Rottnest Island, alongside other enemy aliens. Though sometimes described as 'prisoners of war', and their camp designated a 'prisoner of war' camp in some contemporary records, merchant seamen were, by international agreement, civilian internees. To describe them as POWs is therefore incorrect. **Shane Carpenter**

See also: HMAS *Sydney*; Internment; Italians; Second World War
Further reading: G. Fischer, *Enemy aliens: internment and the homefront experience in Australia, 1914–1920* (1989); A. J. Fitzgerald, *The Italian farming soldiers: prisoners of war in Australia, 1941–1947* (1981); B. Winter, *Stalag Australia: German prisoners of war in Australia* (1986)

Proclamation Day marked Western Australia's transition from Crown colony to elected self-government. After a triumphant train journey by the new governor Sir William Robinson from Albany to Perth, more than six thousand men, women and children assembled on Perth's Esplanade to celebrate proclamation of the *Constitution Act* on 21 October 1890. The Proclamation—a dry and legalistic preamble to the Act—was read out by the colony's Acting Chief Justice, Sir Henry Wrensfordsley, and Governor Robinson led three cheers for the Queen. After the official proceedings there was a fete for children with games and a circus, while parents and others enjoyed an ample open-air lunch before a sporting competition and evening festivities. The next day Robinson travelled to Fremantle, where another round of celebrations ended with the ceremonial planting of a Constitution tree. Similar celebrations were held in town centres and villages throughout the colony.

The *Constitution Act* established two Houses of Parliament—an elected Legislative Assembly, and a Legislative Council with members initially nominated by the governor. While this system of government is generally known as a Westminster system, at the time it was described as 'responsible government' because the executive or cabinet was 'responsible' to the legislature. Previously, the governor and his officials had administered the colony's day-to-day affairs, but the Act led to the appointment of a ministry or cabinet of five, one from the Legislative Council and the remainder, by convention, elected members of parliament. The Imperial government retained responsibility for external affairs, defence and Aboriginal welfare, at least for a time. WA was still a British colony (the Act did not make it wholly independent)

Proclamation of Responsible Government for WA from Grandstand on the Esplanade, Perth, October 1890. Courtesy West Australian *(HIST222)*

but it had gained a large degree of political autonomy.

Most candidates described themselves as independent 'free lances' for the first elections to the Legislative Assembly in November and December 1890. Only non-Aboriginal men over the age of 21 who owned or leased property of a certain value and satisfied stringent residency rules were entitled to vote. Thirty members were elected to the Assembly, nineteen of them unopposed. John Forrest formed a five-member cabinet. The four Assembly ministers-elect—Forrest, Septimus Burt, W. E. Marmion, and H. W. Venn—had to resign their seats and contest another election allowing voters to judge their suitability for office. They were returned, and, together with George Shenton of the Legislative Council, formed the first cabinet when parliament reconvened on 20 January 1891.

For a time Proclamation Day was a public holiday in WA, but later became merged with Labour Day, and subsequently the date shifted from October. Nowadays, it is used by various authorities and educational institutions to focus attention on constitutional matters.
Mathew Trinca

See also: Citizenship; Citizenship, Aboriginal; Constitution; Electoral system; Female suffrage; Foundation Day; Parliament; State emblems
Further reading: D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991); C. T. Stannage (ed.), *A new history of Western Australia* (1981); C. T. Stannage, *The people of Perth* (1979)

Psychology is the study of human behaviour. Ethel Stoneman was Western Australia's first psychologist. She was interested in why some children failed at school and convinced the government to establish a central assessment facility. She also drafted the Mental Deficiency Bill of 1929, containing eugenicist provisions for compulsory sterilisation of the 'feeble-minded'. The Bill was rejected by parliament. A Department of Psychology, the second in Australia, began at The University of Western Australia (UWA) in 1930 under the direction of Dr Hugh Fowler. He introduced experimental psychology and was closely associated with organisational psychology.

Psychology developed rapidly after the Second World War. In 1946 an applied clinical psychology course, the first in Australia, was established at UWA by Pat Pentony and Dr Elwyn Morey. The British Psychological Society represented psychologists in WA from 1947 until 1966, when a branch of the Australian Psychological Society was formed. The first professor of psychology, Kenneth Walker, was appointed in 1952. Pioneers in applied psychology in WA were Ross Smith (clinical psychology), Nancy Stewart, Audrey Little and Margery Pember (child psychology), Jim McCall (guidance), Ted O'Keefe and Ellis Brown (mental health), and the first private practitioner Jeffrey White (clinical).

Following the lead of psychology in Britain and the USA, universities adopted the scientist–practitioner model, in which the first degree is in the science of psychology and subsequent years are dedicated to the applications of psychology. Thus, clinical psychology was upgraded to a postgraduate diploma in 1956 and a two-year masters degree in 1966. Ross Smith played a pivotal role in these developments. As principal clinical psychologist in the WA Mental Health Services he persuaded the government to establish two-year cadetships, enabling gradual replacement of three- and four-year trained psychologists with those with masters degrees. Other states followed this pattern much later. WA Institute of Technology (later Curtin University) introduced postgraduate training in counselling in 1968 and in 1978 Murdoch University began teaching postgraduate studies in applied psychology (in both clinical and educational psychology). Six years' training is still required for practice in

WA, and most universities also offer doctoral training.

Initially, applied psychology had a strong psychodynamic (Freudian/Jungian) and client-centred (Rogerian) orientation. UWA's second professor, Aubrey Yates (appointed in 1966), was a strong exponent of behaviour therapy and was instrumental in bringing Associate Professor Jay Birnbrauer to WA to introduce behaviour analysis with children and for people with developmental disabilities. Thus, from 1970, the orientation shifted to behaviour modification and therapy based upon learning theory. The predominant theory in practice today is cognitive-behavioural. In academia, cognitive psychology and neuropsychology have replaced learning theory.

The *Psychologists Registration Act* (1976) resulted in the creation of the Psychologists' Board of WA in an attempt to prevent practice by those calling themselves psychologists despite the lack of any formal or university training. The misuse of hypnosis was frequently cited as another reason to regulate the profession. This legislation was used as a model in WA for other registration acts and also by other states. In addition to the Psychologists' Board, colleges of the Australian Psychological Society regulate specialists with appropriate training and supervision. In WA in 2005 there were 2,169 registered psychologists, including 717 registered specialists. Major categories of specialist include clinical, counselling, educational and developmental, forensic, neuropsychological, organisational, and sports psychology. **Ross Gregory**

See also: Child development; Curtin University of Technology; Disability, intellectual; Eugenics; Mental health; University of Western Australia

Further reading: J. Birnbrauer, 'Development of Clinical Psychology in Australia', in P. R. Martin and J. S. Birnbrauer, *Clinical psychology: profession and practice in Australia* (1996); A. Gaynor and C. Fox, 'The Birth and Death of the Clinic: Ethel Stoneman and the State Psychology Clinic, 1927–1930', in C. Fox (ed.), *Historical Refractions. Studies in WA History*, 14 (1993); R. L. Smith, *Reflections of a clinical psychologist* (1999); A. Richardson, 'Psychology at The University of Western Australia (1913–1988)—a Brief History', *Australian Psychological Society Bulletin* (June 1995)

Public art commissioning has played a major part in the enhancement of our cities and towns and those spaces accessible to the public, such as parks and landscape settings. The term public art includes works that serve a commemorative purpose and many works commissioned by the church, a constant and important patron of artists.

Public art did not achieve prominence in Western Australia until the second half of the twentieth century. Before this most works were memorial statues or commemorative fountains donated by publicly-minded citizens or businessmen. A rare exception is the statue of *Peter Pan* erected in Queen's Park in 1929, gifted to the children of the state by the Perth Rotary Club. This paucity of public art is surprising given the economic prosperity occasioned by the gold boom. It is possible that a number of works have simply disappeared, such as the ornate drinking fountain erected c. 1893 on the corner of St Georges Terrace and Barrack Street in Perth, replaced by the relocated *Alexander Forrest* memorial (1903) by sculptor Pietro Porcelli, the first professionally trained sculptor to work in WA.

Other early examples include *Queen Victoria* (1902), which was gifted to the state by businessman Allen Stoneham; the *George Leake drinking fountain* (1904, artist J. W. R. Linton); and the statue of *Lord Forrest* (1927, sculptor Sir Bertram Mackennal), all located in Kings Park, Perth. In Fremantle there is the *Edward Marmion Memorial Cross* (1902), the statue of *C. Y. O'Connor* (1910) and the *Maitland Brown Memorial* (1913),

all by Porcelli, who was also responsible for the statue of *F. H. Piesse* (1916) in Katanning, and numerous war memorials. The *South African War Memorial* (1901) in Kings Park, the *Desert Mounted Corps Memorial* in Albany (relocated from Port Said and unveiled in 1932), and *Sir J. J. Talbot Hobbs* (1940, sculptor Edward Kohler) on Riverside Drive, Perth, are important examples of the figurative type of memorial art.

Modern public art, much of it in the non-figurative or abstract style, came into prominence during the economic boom years of the 1960s and 1970s, when new buildings were being constructed, particularly in the central business district of Perth. The New South Wales sculptor Lyndon Dadswell was commissioned by the Commonwealth Bank to produce *Wildflower State* (1960) for the façade of its new bank (demolished in the 1980s) on the corner of Hay and William streets. The sculpture, which was saved, was possibly the first large public art commission of its type in WA. Two local artists involved in commissions from this time were Margaret Priest (trained in Scotland) and Howard Taylor, belatedly regarded as one of Australia's most significant artists. Taylor's works include *The Shell* (1965) for the ANZ Bank, and *Black Stump* (1975) for the forecourt of the AMP building. Both works have since been moved to university campuses. Robert Juniper's 1960 mural for the former ABC headquarters in Adelaide Terrace, Perth, and Howard Taylor's murals inside the Fremantle Passenger Terminal (1960) are two of only a few early modern commissions to remain in their original locations in either city.

Apart from Taylor's work in Fremantle, the construction of the Sheraton Hotel in Perth provided the first major set of commissions to local artists and craft practitioners for interior furnishings. In 1972, Jan Ormerod produced silk-screened wall panels, Rinkse Car Driesen and Robert Bell large off-loom wall hangings, and Bernard Tandy a large copper tree, *Lasseter's Reef*, for the

Victorian Room. Foyers of major buildings have now become important places for the public display of corporate sponsorship of the arts.

Kings Park and Botanic Garden is a major site for public art in this state. Apart from the memorials, there are extensive new acquisitions linked to various themes such as the park's flora and fauna. The universities have also played an important and ongoing role in the commissioning of artworks for their campuses that are open to the public.

The state's sesquicentenary in 1979 provided the impetus for a number of city and shire councils to commission commemorative artworks for public places. The trend has continued, with many regional centres involving artists in the enhancement of their towns, cities and parklands. East Perth, Ellenbrook and Joondalup are notable examples of places that have included major public art programs as part of their initial development.

In 1989 the state government established a Percent for Art scheme whereby a percentage of the cost of a project was allocated for the commissioning of artworks to enhance the building and its site. Commissions from this process have enabled many Aboriginal artists to participate in the interpretation of particular sites, such as Moore River and East Perth foreshore. By the beginning of 2006 there had been over three hundred projects with over five hundred separate artworks completed or under way. The scheme has seen public art provide visual and cultural enrichment to schools and colleges—Stuart Green's *Water Wall* panels for the Peel Senior Campus in Mandurah is an outstanding example —hospitals, housing estates, train stations, prisons and detention centres. Recent major infrastructure projects have seen the concept of public art expand to include the participation of artists, for example, in the Southern Suburbs Railway, the Roe Highway and the Kings Park Federation Walkway.
Robyn Taylor

See also: Art, colonial; Art, contemporary; Art, modern
Further reading: T. Smith, *Robert Juniper* (1999); T. Snell, *Howard Taylor: forest figure* (1995); R. Taylor, *One hundred years: Western Australian sculpture 1895–1995* (1995)

Public examinations From 1895 to 1915, Western Australian school students seeking university entry or other accreditation sat public examinations provided by the University of Adelaide. The establishment of The University of Western Australia (UWA) in 1911 generated demand for local assessment, answered in 1914 with the first examinations sourced in WA. The Public Examinations Board (1915–74), based at UWA, published annually a *Manual*, which provided syllabus statements for secondary-school academic subject curricula. Two levels of examination existed: Junior Certificate for students completing the compulsory three years of secondary school, and Leaving Certificate for those completing the post-compulsory upper two years. Initially, both school certification and tertiary matriculation were incorporated into one Leaving examination, but, later, separate examinations for each purpose occurred.

Implementation of the Dettman Report (1969) marked the end of the Junior Certificate examination, with certification at Year 10 through an internally assessed Achievement

Students waiting to take exams in the Drill Hall, Perth, August 1902. Courtesy West Australian *(HIST6229)*

Certificate. In response to a broadening tertiary education sector, public examinations for school-leavers from 1975 were conducted by the new Tertiary Admissions Examination Committee. Implementation of the Beazley and McGaw Reports (both 1984) saw public examinations test student work only in Year 12, with equal weighting given to a school-derived mark. The report *Our Youth, Our Future*, published in 2001, proposed radical reforms: fifty-one 'courses of study' would be assessed in school through an outcomes-based approach, moderated by a public examination in each, and a single aptitude test. Widespread vocal resistance to the reforms saw the proposals postponed in 2006, subject to major reworking, which currently remains in progress. **William Allen**

See also: Education, government secondary; Education, independent schools; Perth Modern School
Further reading: M. A. White, 'Sixty years of public examinations and matriculation policy in Western Australia', *Australian journal of education*, 19, 4 (1975)

Public health One of the key reasons for the choice of the Swan River as a location for a colony was its healthy climate. Captain James Stirling considered that the new colony could become a convalescent station, to save long journeys to Europe for troops and employees of the East India Company stationed in India. As a result, the early colonial authorities were keen to ensure that reports of the health of the small population were positive so that new migrants continued to arrive. However, as the population grew, illness increased and emerging urban issues such as sewerage, drainage and air pollution had to be addressed.

The *Public Health Act 1886*, introduced to assist in this process, was subsequently amended and replaced by the *Health Act 1898*, which was also amended on several occasions to deal with emerging problems

and was replaced by the *Health Act 1911*, which remained operative, with amendments, in 2006. Public health decisions in the early days of the colony were, for the most part, based on the miasma theory. According to this theory, common in Europe for centuries, air that was damp or polluted, such as that produced by rotting vegetation, was blamed for sickness. In the Swan River Colony, this theory was the basis for the appointment of Perth's Inspector of Nuisances in 1868, a 'nuisance' being a bad smell whose source had to be found and eradicated.

The colonial population increased from 6,000 in 1884 to 87,000 in 1911, after the gold rushes. The huge influx of population to the goldfields and the lack of clean water supplies and sanitation saw the rapid spread of disease. Typhoid fever was a problem with which the colony and state had to battle for many years, and between 1893 and 1903 nearly two thousand people died and at least another eight thousand suffered from the disease. With the discovery of the microbe at the end of the nineteenth century and the rise of the science of bacteriology, laboratories became a vital tool in assisting with the administration of public health. In 1901 the Central Board of Health established a laboratory and appointed a bacteriologist. This approach was to be vital in dealing with the bubonic plague and, later, tuberculosis. Emphasis was placed on the need to control the diseased individual and the sources of infection. Vaccination, quarantine and isolation were key public health tools used from this early period and continue to be used when dealing with disease.

Between 1910 and 1940 the Western Australian population grew from 276,832 to 468,311, with around half living in the metropolitan area. The *Health Act 1911* was amended several times to deal with issues such as boarding houses, food, sanitation in homes and the provision of sanitary works in city and country districts. The period after the First World War saw health authorities assume increasing responsibilities, including the School Health Program and the establishment of the Wooroloo Sanatorium in 1915 to isolate tuberculosis sufferers. The school health-inspection scheme was formalised in 1911 when every Medical Officer of Health was required to be a Medical Officer of Schools. In 1917 Dr Roberta Jull was appointed full-time Medical Officer of Schools to lecture teachers on school hygiene and to visit schools. The war itself saw the insertion of clauses into the *Health Act 1911* dealing with the growing problem of venereal disease and, in the early postwar years, more emphasis was placed on human life, with measures implemented to address the high rate of infant mortality in the state. The state did not escape the worldwide influenza epidemic and was declared infected in 1919.

The Second World War also brought changes to public health in WA. That war again saw an increasing number of venereal disease cases and the assumption of powers

Mrs Florence Cardell-Oliver, first Australia woman Cabinet Minister, handing a bottle of milk to schoolchild in April 1940. Courtesy West Australian *(GP7294A)*

for the state to deal with these and other problems. In 1948 the state experienced its first serious epidemic of poliomyelitis, and the disease was to remain endemic, with further major epidemics in 1954 and again in 1956. A 1948 amendment to the *Health Act* saw the Public Health Department given responsibility for the administration of tuberculosis in the state. The compulsory X-rays taken on enlistment and on discharge from the services during the Second World War prepared the population for the introduction of compulsory X-rays in 1950 as part of the campaign to eradicate tuberculosis. After the war, which had seen many young Australians judged physically unfit for service, increased importance was placed on nutrition, housing for health, infant mortality and fitness, as well as on the need for action to deal with problems of Aboriginal health, particularly in the state's North-West.

The postwar decades saw a boom in population, resulting from births as well as a large migration program. In the twelve years from 1947 to 1959 the population of the state increased by 45 per cent: from 502,480 to 726,489. By 1971 Western Australia's population had grown to over one million and health authorities had begun to address a range of new environmental, medical and social problems.

With the associated urban expansion came problems such as air pollution, waste disposal and occupational health. Emerging public health issues such as these were addressed by amendments to the *Health Act*, or incorporated into separate and specific legislation, such as the Clean Air, Fluoridation and Radiation legislation. The emergence of a strong environmental consciousness from the late 1960s was a major factor in the establishment of the Environmental Protection Authority in 1971 and the transfer of powers over areas such as air pollution and noise from the Health Department to the new authority in 1986. The Health Department's lack of influence in the area of occupational

health, in the face of the state government's desire to develop its natural resources, was demonstrated in the case of asbestos production at Wittenoom. The introduction of the *Occupational Safety and Health Act 1984* and the establishment of the Commission for Occupational Safety and Health was a result of the apparent failure of the Health Department to perform satisfactorily in this area.

Migration to WA peaked in 1988, with the population reaching 1.7 million in 1993. Significant economic growth continued, accompanied by huge urban expansion and the consolidation and expansion of large regional centres such as Karratha, Kalgoorlie and Port Hedland. The arrival of AIDS in WA in the 1980s forced a re-evaluation of the nature and basis of public health. This came at a time when public health priorities were changing, with more emphasis being placed on chronic rather than infectious disease and individuals being given more responsibility for their own health. Lifestyle campaigns, such as the anti-smoking campaigns, were part of a health promotion process that sought to encourage behaviour modifications.

Bacteria and other infective agents were no longer seen as the major cause of ill health. The blame was increasingly placed on stress and the lifestyle choices of the community. Social issues, such as smoking, alcohol use and the wearing of bicycle helmets, have been viewed by health authorities as health issues and justified as targets for health promotion. One of the most successful campaigns has been the Australia-wide Slip-Slop-Slap campaign introduced in 1981 to urge people to 'slip on a shirt, slop on sunscreen, and slap on a hat' when they go out into the sun in order to prevent skin cancer.

Public health in WA in the late nineteenth and twentieth centuries aimed to protect and improve the quality of life of its white settlers. When the colony was settled in 1829, the Aboriginal population totalled approximately 50,000. The transmission of a variety of infectious diseases,

the breakdown of traditional Aboriginal societies and the resultant change in living conditions led to a decline in the numbers of Aboriginal people, so that by the end of the nineteenth century the Indigenous population numbered between 20,000 and 23,000. Healthcare assistance was paternalistic in intent and was largely driven by fear of the spread of disease to the white population. The establishment of the Aborigines Protection Board in 1886 marked the beginning of an official 'protection policy' which was achieved through increased state control over a range of matters including employment and sexual behaviour. The institutionalisation of this policy was epitomised by the lock hospital system, which operated between 1912 and 1917 for the treatment of Aboriginal people believed to be suffering from venereal disease. The approach to the treatment of leprosy among Aboriginal people was also marked by fear, with the disease seen as a threat to the white population and an impediment to the proper defence of the nation. The Leprosy Line, instituted in 1941, illustrates the use of quarantine and isolation to control the Aboriginal population, with little or no medical basis. In 2006, on almost every health indicator, the health of Aboriginal and Torres Strait Islanders is worse than that of other Western Australians, and for both men and women there is an eighteen-year gap in life expectancy between Aboriginal and non-Aboriginal people. Water supply and sanitation remain priorities if the health of Indigenous people in communities is to be improved. The *Health Act 1911* does not address the special problems faced by isolated Aboriginal communities, nor does it provide for local community involvement in maintaining health standards.

Infectious disease was the main problem health authorities faced until after the Second World War, and improving living conditions, clean water, sewerage, vaccination and isolation have all played a part in the reductions in deaths from diseases such as tuberculosis and poliomyelitis. However, an increasing number of pathogens have been and are now being identified as capable of causing disease in humans, including Ebola haemorrhagic fever, Legionellosis, Lassa fever and Creutzfeldt-Jakob disease (CJD).

There is now a range of new and emerging infectious diseases, some zoonotic in origin. These diseases can be spread quickly in this age of extensive and frequent air travel to all parts of the globe. The emergence of Severe Acute Respiratory Syndrome (SARS) in early 2003 and avian influenza in 2005 is an indication of how infectious-disease specialists, scientists and epidemiologists need to work together to come up with strategies to deal with such diseases.

While new diseases emerge, tuberculosis and polio and even the bubonic plague are re-emerging in some parts of the world. At the same time, some previously reliable treatments, such as antimicrobial therapy, are now proving ineffective due to over-use. Number of vehicles and vehicle usage have increased and, despite cleaner fuels and catalytic converters, air pollution remains a major human health problem. Increasingly, indoor air pollution is proving to have a major impact on health, because people spend increasing amounts of time in well-sealed homes. The possible health impacts of climate change from global warming must also be addressed. In terms of lifestyle issues, the prevention and management of obesity are high on the agenda of public health authorities in WA and around Australia.

In looking to the future, the Health Department is planning a new *Health Act* to replace that of 1911. The proposed legislation will attempt to prepare the state for a very different future from that provided for in the old legislation, and to ensure that WA has the ability, flexibility and framework to address emerging public health risks and protect the health of the community. **Sue Graham-Taylor**

Further reading: D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981)

Public housing has been the domain of Australian state governments since the 1910s. During the early part of the twentieth century, Perth faced high demand for and limited supply of land, housing and building materials. The Scaddan Labor government established the Workers' Homes Board in 1912 with the aim of meeting the housing requirements of people with limited means. During its lifetime, the Workers' Homes Board housed four thousand people, but many thousands remained destitute.

In the period after the Second World War, housing shortages, shortages of materials and lack of infrastructure were exacerbated by the demobilisation of troops, the postwar baby boom and an increase in European migration. The Workers' Homes Board was replaced by the State Housing Commission in 1945, marking the beginning of a more bureaucratic, pragmatic and detached approach to public housing. The Commonwealth State Housing Agreement of 1945 provided the financial means to enable the State Housing Commission to attempt to meet its target of 50,000 homes by 1955. Labor Minister for Housing, Herb Graham, championed alternative approaches to housing—army barracks were converted into housing, prefabricated houses imported, and blocks of flats constructed. These included Wandana (designed by Harold Krantz and opened in 1956) in Subiaco, the first multi-storey public housing block in the state; Graham Flats in West Perth (1959);

Tingira, East Fremantle (1961); and Myuna, North Fremantle (demolished 1999).

However, shortages in labour and materials remained problematic. Along with this, the Commission had to deal with a number of interest groups—trade unions, skilled tradesmen, sponsored immigrants and ex-servicemen—who all presented persuasive arguments for housing based on their own special needs, from serving the country in times of war to providing skilled labour to build the Western Australian economy. The less well-represented poor had less chance of securing accommodation. By 1955 the Commission had built 20,000 homes and housed 90,000 people at a cost of £53,291,000.

From the 1950s to 1970s, in a climate of rising land costs in the metropolitan area, the State Housing Commission began to look at housing estate developments to meet the need for housing. Built with shops and other amenities in close proximity, the housing estates subdivided in the 1950s—at Balga, Coolbellup, Koongamia, Mirrabooka, Manning, Nollamara, Wilson—all contributed to the urban sprawl characteristic of Perth today. Reflecting trends in public housing in Britain, and innovative in their day but later spawning social problems, were the Commission's high-rise towers, such as the Brownlie Towers precinct (1970–71) in Bentley, which included twin ten-storey blocks of flats, as well as smaller apartment blocks, linked to a school, shopping centre, sports facilities and public transport.

While these estates and state housing developments in major country towns satisfied a larger proportion of the Western Australian population in need by the 1970s, other groups, in particular the Aboriginal community, were still inadequately housed. In 1953 the State Housing Commission had developed a scheme to provide housing for Aboriginal families and an initial twenty-five homes had been built at Port Hedland. Further building had followed, but it was never successful. In the late 1950s until the early

1970s transitional housing was made available for Aboriginal fringe dwellers in country towns and remote areas. This also largely failed. Aboriginal housing was sub-standard and considered specifically 'Aboriginal'. The Aboriginal Housing Board was established in the mid 1970s to concentrate on Aboriginal housing issues, but even then the Commission placed strict regulations on Aboriginal housing, with homes provided on the basis of paternalistic assumptions about 'better types'. While the situation has now improved, the allocation of public housing is still driven by public opinion and biases.

In 1985 the State Housing Commission became known as Homeswest, with regional offices throughout the state. During the 1990s Homeswest tenants were encouraged to purchase their accommodation. Today, many longer-term problems of housing low-income earners, such as the establishment of housing estates and policies of integration, remain unresolved. **Shreemen Prabhakaran and Jenny Gregory**

See also: Flats and apartments; Fringe dwellers; Homelessness; Housing; Suburban development; Town planning; Welfare
Further reading: K. Bell, 'The State Housing Commission and Aboriginal Housing 1959', in L. Layman and T. Stannage (eds), *Celebrations in Western Australian History: Studies in WA History*, 10 (1989); R. Sharp, 'A history of public housing in Western Australia', Honours thesis, Murdoch University (1994)

Public service Professionals and artisans were first appointed to public service in 1828, a year prior to Western Australia's official foundation as a Crown colony. In that year six agencies were created employing a total of seven people. The use of modern terms such as 'public service' and 'agencies' to describe these events can be misleading, as in both cases it was a much more ad hoc affair. With no convict labour available, the Public Works

Department, under a variety of titles, grew to be the main employer, while the number of agencies and employees steadily increased. In 1858 there were 19 agencies with 131 employees, and by 1889 there were 28 agencies with 622 employees.

Convicts were transported to the colony between 1850 and 1868. Over this period there operated a second public service—the Convict Establishment—to administer the prisoners, this being funded directly by the British government and answerable to the Home Office in Britain. The two bodies of bureaucrats were unconnected but the governor had authority over both, and some persons, chaplains and surgeons, for example, had part-time jobs in each.

Western Australia's first *Public Service Act* was promulgated in 1900, defining for the first time both the public service and the public sector. In 1904 the second public service act accommodated the changes wrought by the state's entry to the Federation and the powers ceded to the new Commonwealth government, particularly customs. The 1904 Act was replaced in 1978, introducing contract appointments to the public service, and this was further revised in 1987 to create a senior executive service. Accountability was enhanced in 1985 with the creation of the *Financial Administration and Audit Act*.

At the behest of Minister Charles Court, the Brand government (1959–71) recognised that the state was seriously disadvantaged by the low quality of data presented to the Commonwealth Grants Commission. An ambitious graduate recruitment program addressed this administrative weakness. The exploitation of the Pilbara iron ore deposits, beginning in the mid 1960s, also suggested that the Commonwealth Under Treasurer, Sir Frederick Wheeler, did not fully appreciate the financial potential of a number of national mining developments. Several state under-treasurers invited Wheeler to view the scale of the Pilbara developments first-hand.

Wheeler was as impressed by what he saw as he was alarmed by Pilbara weather patterns in the cyclone season. The North West Planning Authority coordinated much of this industrial activity, making legal agreements work and practising 'whole of government' thinking before its time.

Until the 1960s, government administration was the builder, owner and operator of all infrastructure: rail, coastal shipping, office buildings and much more. In 1985 the Public Works Department ceased to exist. Many large public authorities had had their genesis there, and over time were split away from the parent department. These included the Water Authority of WA; Building Management Authority; Department of Marine and Harbours; Main Roads Department; Westrail; State Energy Commission; Department of Resources Development; State Engineering Works; and the Fremantle and five other Port Authorities.

There were also major changes to service conditions. In the 1970s the barriers to promotion imposed on married women joining and continuing in the service were removed. In the 1980s the duopoly of an under secretary and a professional officer was replaced by a single chief executive officer (CEO) for each department, while, in addition, career appointments to age sixty-five were replaced by five-year appointments. Very few CEOs survived a change in government both during and subsequent to this time. Finally, there was a significant increase in the number of departments and agencies with narrow and specialised roles, and also an increased provision of infrastructure and services through private providers. The Gallop Labor government (2001–06) slowed this last trend.

The model of administration that dominated much of the twentieth century produced some remarkable leadership achievements, in technical fields in particular. For his engineering efforts, C. Y. O'Connor has justifiably achieved legendary status, while the pre-1960s achievers include Sir Russell Dumas and Sir John Parker. These leaders had their post-1960s counterparts who contributed significantly to the establishment of WA as a force in the mining, petroleum and gas sectors.

Various Labor governments implemented changes that impacted on the public service, including equal opportunity legislation (1984), freedom of information (1992), a new public sector management Act and the establishment of the Environmental Protection Authority (1986). The Royal Commission into Commercial Activities of Government and Other Matters that later investigated the WA Inc. era (reporting in 1992) questioned aspects of the state's system of public administration, concluding that it was 'conducted under what, in essence, is a late nineteenth century legislative framework' and that the system was 'susceptible to the corrosive effects of political influence and manipulation'. Anecdotal evidence of ethical standards contrasts with findings of university surveys of both senior and mid-level managers, which portrayed the new breed of 'term of office' ministerial advisers as having too much influence over ministers and expressed general concerns at their perceived low ethical standards.

The report of the Independent Commission to Review of Public Sector Finances in 1993 contrasted sharply with earlier reforms. Focused on the role of markets, competition and public choice, it reflected developments in the United Kingdom and New Zealand. It argued that the public sector fabric could not be patched and must be replaced; but the government of Richard Court (1993–2001) balked at the challenge.

Doctoral research argued that in the 1990s, CEOs believed that the most important characteristics of leadership in public service organisations related to setting direction and communicating vision. Personal attributes relating to ethical behaviour and the capacity to inspire and motivate were also considered to be important. However, some CEOs believed that changing the culture of their organisations in the longer term did

not relate well to the short-term nature of their employment contracts. By the close of the twentieth century the state public service comprised 111,000 employees and more than 750 departments, commissions, ministries, boards, trusts, authorities, offices, committees and other entities. On the recommendations of the Machinery of Government Taskforce, it underwent further transformation.

The Institute of Public Administration of Australia (WA Division) (1945) focused on enhancing public sector accountability by establishing the Lonnie Prize in 1985 for the best annual report to parliament. The prize subsequently spawned additional prizes for the general government sector, the financial sector, and awards from the Auditor-General, the Public Sector Standards Commissioner, the Ombudsman and Curtin University Business School. **Allan Peachment**

See also: Equal opportunity legislation; Politics and government; Royal Commissions; WA Inc.

Further reading: J. S. H. Le Page, *Building a state: the story of the Public Works Department of Western Australia 1829–1985* (1986); G. N. Stanley, 'Public sector reform in Western Australia: the role of chief executive officers in leading cultural change in their organisations', PhD thesis, Curtin University (2001); M. Wood and M. G. N. Hollier, 'Parliament and the public service', in D. Black (ed.), *The House on the hill: a history of the Parliament of Western Australia 1832–1990* (1991)

Puppetry Little is known of the earliest years of puppetry in Western Australia, but between 1886 and 1914 traditional British puppeteers entertained the residents of Albany and a few itinerant performers toured the state.

Puppetry also had a role in therapy and education. During the First World War it was used in hospitals, and in the 1930s Frances Rodgers used puppets in remedial teaching, utilising both traditional and Australian characters. In the South-West, John Henderson carved Aboriginal marionettes from blackbutt to tell Indigenous stories.

More Australian content emerged in 1958 when Peter Scriven's *Tintookies* from Sydney presented *Little Fella Bindi* at the Playhouse, Perth, using marionettes and a storyline based on Australian Aboriginal folklore.

Philippe Genty's 1963 UNESCO world tour included Western Australia's North-West (he had to stuff a banana into his carburettor when his Volkswagen broke down at one stage of the long haul). It was his move from the traditional 'Punch' and strings style, combined with television, that gave puppetry an impetus towards modernity.

Puppets with animation became an accepted method of educating television viewers. WA television artists of the 1960s who used puppets included May Robinson, John Henderson, Peter Harries and Rolf Harris, with Peter Hartland as Western Australia's first professional television puppeteer. Mildred Clarke was ABC TV's educational puppeteer for French broadcasts to schools. Western Australia's first exports were Michael Lush of Northam, with his Christian story glove puppets, to Russia, and Elaine Dearden's gloves of Australian animals to various USA and European cities.

In 1964 more than six hundred children attended puppet-acted stories with a moral presented by Puppet Theatre Productions (1964–80) at the Library Theatrette, Fremantle, with mainly glove, rod and shadow puppets. International animator Alan Murphy began his puppetry in 1965 with Fremantle's Children's Puppet Theatre.

The Puppetry Guild of WA (1967–76) published a periodical, *Down Under and Over the Top*, compiled by co-founder Mildred Clarke, who directed the first puppetry festival in 1974 at Fremantle Arts Centre, when Indonesian shadow puppetry was explored. In 1970 Australia had joined Union Internationale de la Marionnette (UNIMA), and Guild members eventually disbanded, united by UNIMA.

From this time, puppeteers, with government and corporate finance, extended the professional scope of puppetry. Western Australia's increasingly cosmopolitan audience applauded Peter L. Wilson's production of *Faust* for the 1981 Festival of Perth with Japanese masters. With associates, Wilson opened the Spare Parts Puppet Arts Theatre in 1982 (later SPPT), introducing master classes by American, European and Asian masters. His stimulus redefined the direction of WA puppetry towards highly technical shows. Noriko Nishimoto became artistic director in 1997. Philip Mitchell, SPPT's artistic director since 2001 and UNIMA councillor, cemented this direction with his 2004 production of *H2O* with giant aquatic puppets made from plastic water bottles with superb sound, lighting and manipulation. It transcended the water puppets of Vietnam's traditional works to proclaim SPPT's unique position in Australian puppetry.

In 2008 Perth hosted UNIMA's 20th World Congress of Puppetry, the first to be held in the southern hemisphere. **Mildred R. Clarke**

See also: Children's theatre; Theatre and drama; Youth theatre

Further reading: K. Brisbane*, Entertaining Australia* (1991); M. Clarke (ed.), *Tinkerbell's puppet scrap book* (1988); P. Hartland, *Life among the Little People* (1991); 'Puppetry', in P. Parsons (ed.) with V. Chance, *Companion to theatre in Australia* (1995)

Q

Quakers (Religious Society of Friends), although few in number, have represented a challenging alternative to the Western Australian establishment and religious orthodoxy. Arising from English dissenters such as George Fox in the 1640s, Quaker faith is of Christian origin but draws insights from many sources. Upholding equality and simplicity, Quakers James Backhouse and George Washington Walker briefly visited the Swan River Colony in 1838. Strongly defending Aboriginal life and land, Backhouse's journal provided a pen-picture of the physical, moral and spiritual state of the colony.

In 1841 Elinor Clifton (cousin of Edward Wakefield and Quaker reformer Elizabeth Fry) settled with her large family at Australind, arriving with a donated prefabricated Meeting House that stood on the property until finally claimed by termites. Fry died before she could take up the house built for her. Alone, Elinor corresponded with Friends' Meetings in Hobart.

Social and spiritual concerns predominated. WA Quakers spoke against compulsory military training, and joined conscientious objection campaigns alongside John Curtin during the First World War. Lilian Foxcroft, one-time suffragette with Mrs Pankhurst, laboured with others to establish the Women's International League for Peace and Freedom. Mollie Skinner collaborated with D. H. Lawrence in writing *The Boy in the Bush.* Lucy and Frank Creeth willed their Mosman Park property for the use of crippled children. When London Court opened in 1937, Quakers ran a short-lived Peace Shop. Concern for better race relations was exemplified by Cyril and Elsie Gare's work in the North-West and at Allawah Grove. Quakers took on a significant role in the Vietnam Moratorium campaign. Friend Laurie Wilkinson served as an ALP senator in the 1960s. He was followed by Jo Vallentine, who became WA Senator for the Nuclear Disarmament Party, and ultimately for the Greens, 1985–92. She also supported Alternatives to Violence in WA prisons and in the wider community.

Quaker outer effort is contrasted by their largely silent worship. Friends' Meeting House is in Mount Lawley, with meetings also in Fremantle, Guildford, Bridgetown, Albany, Denmark and Geraldton. **Adrian Glamorgan**

See also: Anti-nuclear movement; Federal politicians; Peace movement; Spirituality and religion; Vietnam War

Further reading: W. N. Oats, *Backhouse and Walker: A Quaker view of the Australian colonies, 1832–1838* (1981); G. Russo, *A Friend indeed: Louisa Clifton of Australind WA* (1995)

Quarantine Little research has yet been undertaken into the history of quarantine in Western Australia. Initially the concept related to the period of isolation imposed on persons and ships at port when they were suspected of carrying an infectious disease to humans. This was later expanded to include plants and animals.

Quarantine was regulated in Britain during the early nineteenth century. In March 1832, all British colonies were advised that these regulations would be applicable to them. In

WA in 1833, Governor Sir James Stirling issued the first proclamation providing details for the prevention of the spread of infectious diseases and the enforcement of quarantine orders against any incoming vessel. The Colonial Medical Department was made responsible for the administration of these orders. After the establishment of Local Boards of Health in the 1850s, those at the main ports assisted and advised on quarantine management. The first quarantine station in WA was built at Albany in 1875, followed by Woodmans Point in 1876.

Following Federation, the Commonwealth *Quarantine Act 1908* transferred the administration of quarantine from the states to the Commonwealth. The Department of Trade and Customs became responsible for the quarantine of humans, animals and plants from outside Australia, with the Chief Medical Officer of each state Health Department becoming that state's Chief Quarantine Officer. In 1908–09, quarantine stations operated for vessels, people and goods at Woodmans Point, Albany, Bunbury and Broome, for animals at Subiaco and Fremantle, and for plants at Fremantle. Today, the Australian Quarantine and Inspection Service (AQIS) controls the risk of exotic pests and diseases at Australia's international borders, such as its international airports, seaports, mail exchanges and container depots, by using a range of techniques such as surveillance, X-ray machines and detector dogs.

Quarantine restrictions also exist between WA and other states and territories, and within WA itself. These were first developed under the auspices of the *Plant Diseases Act 1914*, so as to minimise the movement of materials that could carry exotic weeds, pests and diseases into the state, thus affecting regional agriculture and environment. This is now managed by the Western Australian Quarantine and Inspection Service (WAQIS), which works closely with AQIS, and operates road checkpoints at Eucla and Kununurra, monitors interstate travellers, including the use of specially trained detector dogs (notably beagles), and inspects air, rail and sea freight.

WAQIS is also responsible for controlling the movement of at-risk material within WA. These restrictions apply to the transportation of fruit to and from the Ord River Irrigation Area, potatoes from the metropolitan region to the South-West, and palm plants and other flora from Broome. **Kristy Bizzaca**

See also: Agriculture; Exotic fauna; Exotic plants and weeds; Influenza epidemic; Public health
Further reading: D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981)

R

Rabbit-proof fence Rabbits may have come to Australia on the First Fleet, but certainly in the late 1850s they were released more widely by Victorian and South Australian graziers. They spread rapidly, proving to be a disaster for the natural environment and agriculture. They crossed the Nullarbor Plain, and by 1901 an alarmed Western Australian government decided a fence was needed to protect the pastoral areas from their deprivations. A. W. Canning surveyed the proposed fence line from Starvation Boat Harbour on the south coast to Cape Keraudren in the North-West. Construction began at Burracoppin but after 465 miles (749 kilometres) it was found to be substandard. The Public Works Department established a Rabbit Proof Fencing Branch in 1904, headed by R. J. Anketell. Before the fence (No. 1) was completed rabbits were found on the west side, so No. 2 was erected further west. No. 3 was built running from east to west to cut off the northern half of the state from rabbits. (see map, State Barrier Fence.) The fences had posts either twelve or eighteen feet apart with netting about eight inches below and two feet ten inches above, attached to two or three plain wires. Nos 1 and 3 fences were completed in 1907 and No. 2 in 1905, a total of 2,023 miles (3,257 kilometres).

The feat required hundreds of men, camels and horses and its magnitude is a tribute to all those involved. Unfortunately the rabbits were not controlled. Parts of the rabbit-proof fence are now incorporated into the state barrier fence. **Judith Anketell**

See also: Acclimatisation; Agriculture; Environment; Exotic fauna; Feral animals; Pastoralism; Pests; State barrier (emu and vermin) fence
Further reading: J. Anketell, *Walker in the wilderness: the life of R. J. Anketell* (1998); E. Smith, *The beckoning West: the story of H. S. Trotman and the Canning stock route* (1966)
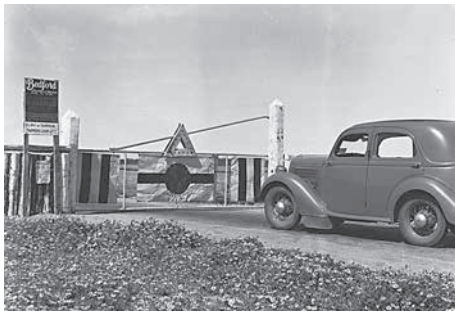
Country travelling often meant crossing the Rabbit Proof Fence, this time at Cunderdin, September 1935. Courtesy West Australian *(NN69)*

Race riots A number of large-scale confrontations between different non-Indigenous ethnic groups have taken place in Western Australia since European settlement. Whereas most riots in eastern Australia were centred on anti-Chinese sentiment in the Victorian and NSW goldfields in the 1850s and 1860s respectively, conflict in WA principally occurred during the twentieth century and involved several very different ethnic groups.

Resentment by unemployed returned soldiers against the perceived loss of jobs in the goldfields to so-called 'Italians' (that is, southern European migrants from Italy, Dalmatia and other parts of the Adriatic)

led to rioting on 11 and 12 August 1919. The incident began with a brawl in Hannan Street, Kalgoorlie, on the night of 11 August, during which one returned soldier was killed. Subsequent rioting in both Kalgoorlie and the adjacent town of Boulder involved some two thousand persons, principally returned soldiers and Anglo-Saxon civilians. A number of buildings belonging to southern Europeans were damaged, but no other lives were lost.

Another large-scale and prolonged disturbance took place in Broome between 20 and 26 December 1920. During the annual 'lay-off' season, when crews were confined to the townsite, conflict broke out between Broome's four hundred Timorese and two thousand Japanese, although the causes of the dispute are not clear. Both groups made repeated attacks on each other, resulting in several deaths, attempted lynchings, and physical beatings. However, no other ethnic groups in town became involved. On 21 December the *Riot Act* was officially enforced, and European special constables sworn in to help reimpose peace, which was restored later in the week. Estimates of the final death toll range from four (two Japanese, a Koepanger, and one European) to six. In addition, about sixty Asian nationals and four Europeans were seriously injured.

A major ethnic clash occurred in Kalgoorlie during the 1934 Australia Day weekend, again due to friction between the Anglo-Saxon and southern European workforces. On 28 January a well-known local identity was seriously injured as a result of a fight with an Italian-born publican. When he subsequently died the next day, several hundred men looted and destroyed a number of Kalgoorlie shops believed to belong to Italians, before doing the same in Boulder. An armed attack was also made on the homes of southern Europeans in the area known as Dingbat Flats, during which guns and home-made explosives were used. Rioting ceased on 31 January with the arrival of additional police and the recruitment of special constables.

A total of three persons were killed, and an official estimate put the total costs of damaged buildings at some £100,000 pounds.

The final major disturbance was a large-scale fracas between US and Maori soldiers during the Second World War. On 11 April 1944, visiting New Zealand soldiers on shore leave (almost all of them Maori) and transiting US troops were involved in street fights that began in and around the corner of Market and High streets, Fremantle. The dispute spread throughout other parts of Fremantle and into Perth. In total, an estimated 500–600 soldiers were involved, and two Maori soldiers were killed. Although this riot took place on Western Australian soil, it is notable that there is no record of any participation by local servicemen. **Michael Schaper**

See also: Asian immigrants, twentieth century; Croatians; Italians; New Zealanders; Second World War; South-eastern Europeans; USA, relations with

Further reading: A. J. Barker and L. Jackson, *Fleeting attraction: a social history of American servicemen in Western Australia during the Second World War* (1996); R. Gerritsen, 'The 1934 Kalgoorlie Riots: A Western Australian Crowd', *University studies in history*, 3 (1969); B. Oliver, 'Diggers, Disputes and Disillusionment: Social and Industrial Unrest in Perth and Kalgoorlie 1918–1924' in J. Gregory (ed.), *Western Australia between the Wars 1919–39: Studies in WA history*, 11 (1991); M. Schaper, 'The Broome race riots of 1920', in J. Gothard (ed.), *Asian Orientations: Studies in WA history*, 16 (1995)

Radio broadcasting began in Western Australia with the opening of 6WF on 4 June 1924. Over the next thirty years another twenty-two radio stations were established throughout WA. Unlike later media, radio was relatively inexpensive and easy to establish and people in the country could hear broadcasts at the same time as Perth listeners.

The first station, 6WF, was created at the suggestion of the Albany Regional Manager of the Westralian Farmers cooperative, John Thomson, almost exclusively to serve the needs of the cooperative's country constituency by broadcasting information relevant to them. That metropolitan listeners also tuned in was a bonus. Technical control of the station was invested in W. E. Coxon.

6WF was the only station in the state until 19 March 1930, when 6ML (owned by the musical company Musgroves Ltd) began broadcasts. This was followed by 6PR (1930, owned by Nicholsons Ltd), 6KG (Kalgoorlie, 1931), 6IX (1933), 6PM (1936), 6WN (1938) and 6KY (1941). Parallel developments occurred in country regions, with stations, most of them simply relay stations, established in Albany, Bridgetown, Bunbury, Collie, Katanning, Merredin and Narrogin.

After the initial flush of enthusiasm radio proved expensive to run, especially in the sparsely populated WA countryside. Consequently, local networks were created with the linchpin based in Perth and country stations relaying broadcasts. The commercial radio networks were dominated by West Australian Broadcasters (6IX, 6BY, 6WB, 6MD), Nicholsons (6PR, 6TZ, 6CI) and Whitfords (6PM, 6AM, 6GE). A national government-funded network that included 6WF, 6WN, 6WA, 6GF, 6GN, 6NM and 6AL and served all the major population centres was created in the period 1931 to 1956. Between 1933 and 1936 the

Opening of 6WF Radio Station, June 1924. Courtesy West Australian *(HIST5686)*

number of radio receiver licences issued by the Postmaster-General's Department (PMG) increased from 33,293 to 50,000; a remarkable figure given the size of the population and the economic difficulties of the period.

The distinction between commercial and national stations characterised Australian broadcasting thereafter, with the Australian Broadcasting Commission (ABC) providing one set of services on a national and state-wide basis and the commercial stations catering for more localised urban audiences. In WA the Commonwealth government acquired 6WF from Westralian Farmers in early 1929. In the early 1930s it was amalgamated into the national network when a landline connection was established with the eastern states' A-class station administered by the newly established ABC, funded by licence fees. Privately owned B-class stations had to raise revenue through advertising. This created a unique dual system of broadcasting that still exists, although it has been augmented since the 1970s by a third tier of public broadcasting, stations based on community or educational interests.

The dual system defined the nature of Australian radio broadcasting over the next forty years. The ABC had a national charter and was charged to provide comprehensive services to all Australians, which meant that it developed a national agenda for broadcasting with programs exploring the formation of an Australian national identity. By contrast, commercial broadcasters had to attract advertising in order to become profitable, which encouraged a regional or local quality in its programming. However, while it was not charged to provide comprehensive services, commercial radio in Perth took its community services very seriously throughout the 1930s, 1940s and 1950s. Thereafter, radio changed its approach to broadcasting in order to survive in the face of television.

In the 1930s radio developed a number of well-tested formulas. The ABC, taking its cue from the BBC, followed a 'highbrow' approach to broadcasting with an emphasis

on classical music, the spoken word and drama. However, it also catered for women and children, with programs tailored to their specific needs. Commercial radio emphasised popular music, chat shows, sport (especially racing and cricket) and, famously, soap opera serial dramas that seemed never-ending. Popular programs of the 1930s included *The Happy Housewife's Programme*, broadcast each weekday morning on 6IX, and *The Cheerio Club*, broadcast by 6ML, which had a peak membership of 10,000 listeners.

The Second World War was a defining moment for radio, which became a conduit whereby national morale was built up through broadcasts designed to maintain contact between troops and the home front. After the war both the ABC and the commercial stations developed a loyal following for their programs. The notable ABC drama *Blue Hills*, after beginning as *The Lawsons* in 1932, ran from 1949 to 1976, becoming a national institution. The commercial stations divided the audience by function. In the morning there was a range of syndicated serials, like *Mary Livingstone MD*, *Dr Paul* and *Digger Hale's Daughter*, aimed at the housewife. In the evenings programs catered for the family and youth audiences with dramas like *Superman*, *Biggles*, *When a Girl Marries* and *The Burtons of Banner Street.* All broadcasters developed musical programs catering for a range of tastes with titles like *Music Hath Charms* (ABC), *Melodies You'll Enjoy* and *South Sea Songs*. Another popular genre was the variety show best exemplified by the work of John Juan on the ABC.

Most programs were hosted by men, but there were a number of well-known women announcers, including Jessie Robertson on 6IX. Best known were the ABC's Nell Shortland-Jones, Phyllis Hope-Robertson and Catherine King.

The heyday of radio was the immediate postwar period. Australia developed a sophisticated radio system that tapped into postwar prosperity. WA was no exception. The ABC expanded its services and advertising revenue increased for the commercial stations. The optimism surrounding these developments was punctured by the introduction of television. By the 1960s audiences had fallen away, revenue was down, and people were predicting the end of radio as a mass medium. Most radio stations axed their serials in the mid sixties. However, by the 1970s radio had begun to redefine itself. Transistors made radios small and portable and easily fitted into cars. Radio changed its formats to exploit these factors and a new teenage market hungry for the latest pop music. Moreover, in comparison to television, radio was an inexpensive medium, easily set up and cheap to run. The expansion of the radio spectrum and the introduction of FM broadcasting aided the creation of community stations. Soon after the Whitlam Labor government granted broadcasting licences to educational bodies, 6NR was established at Curtin University in 1976 and 6UWA at The University of Western Australia in 1977 (renamed 6UVS in 1978 and RTRFM in 1991)—the first of a number of community stations. By the 1990s radio had become a medium emphasising talkback, popular music, sport and news. At the beginning of the twenty-first century radio was once again an important, even indispensable medium of communication. **Leigh Edmonds and Brian Shoesmith**

See also: Australian Broadcasting Corporation; Cinema; Communications; Radio drama
Further reading: R. Lane, *The golden age of Australian radio drama 1923–1960: a history through biography* (1994); B. Shoesmith and L. Edmonds, 'Making culture out of the air: Radio and television', in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003)

Radio drama in Western Australia is tied to the beginnings of the ABC, when Western Australian Leslie Rees became the founding

federal Play Editor for the ABC in 1936. In Perth in the 1930s and 1940s the performers for early radio plays were drawn largely from the Perth Repertory Club. These included actors such as Henry Cuthbertson, Joan Good, Bill Bennett and Nancy Nunn, and they were called the ABC Players. The first radio drama producer in Perth was Harry Graham. His productions included adaptations of *Uncle Tom's Cabin* and *The Bells*. These went live to air and the public was permitted to attend a broadcast in the same way as they would attend a theatrical performance.

One of the key players in radio drama was Western Australian writer Anthony Turner. Turner wrote plays specifically intended for radio and drew on Australia for his stories. His play *Hester Siding*, first broadcast on 21 April 1937, was a landmark for its innovative use of railway sound effects for narrative purposes. Turner became drama producer for WA from 1946-72. In 1951 he produced a serialised version of *A Town Like Alice*, which starred Perth actors James Bailey, Jean Paget, John Nugent and James Condon. It went to air initially in the eastern states and was then re-broadcast a month later for WA. It was the first time WA had produced a drama serial for national relay.

The new technology of stereophonic sound brought further possibilities to the way radio drama was made, and the first stereo play made in WA, Tom Stoppard's *Albert's Bridge* (1967), was produced in 1979. Stoppard himself oversaw the production during his visit to Perth for the Festival of Perth. The stereo-sound image captured the close-up perspective of workers high on a bridge far above the madding throng. It starred Edgar Metcalfe and was produced by Frank Zepple and Tony Evans.

More recently, satellite and digital technology has allowed greater experimentation. In 1997, ABC (Perth), together with CBC (Toronto) and BBC (Cardiff), linked drama studios and actors in all three countries via the ISDN lines to record *Losing Paradise*, a six-part drama serial about the smuggling of endangered birds. It won the gold medal at the New York Radio Awards and the British Telecom award for innovative use of technology. Gillian Berry and David Britton were the Perth producers.

Nowadays a play on radio is a complex mix of elements. Ideally it is a multi-dimensional composition of voice and music, together with spatial and acoustic elements, as it was with the 2001 production of *Music from the Whirlwind* (1998) by Perth writer John Aitken.

The ABC now has drama units in Sydney, Melbourne, Adelaide and Perth with a brief to support and encourage local writing for radio drama and to provide opportunities for actors and musicians. The radio drama produced by the ABC in Perth is broadcast nationally, internationally and digitally online through the World Wide Web. In 2005 the ABC Perth moved from studios in Adelaide Terrace to new premises in East Perth, where radio drama is made in a state-of-the-art digitally equipped performance studio. **Gillian Berry**

See also: Acting; Australian Broadcasting Corporation; Festival of Perth; Radio; Theatre and drama

Further reading: K. S. Inglis, *This is the ABC: the Australian Broadcasting Commission, 1932–1983* (1983); R. Lane, *The golden age of Australian radio drama 1923–1960: a history through biography* (1994)

Railway workshops The government railway workshops at Midland were opened in 1904 to replace the smaller, outdated locomotive repair workshops, built in Fremantle in the 1880s, to assemble locomotives and rolling stock shipped from England. Opened in 1887, with the capacity to house six locomotives, the Fremantle workshops were soon inadequate. Between 1885 and 1895, both the mileage of railway laid and the number of engines in use quadrupled to cater for the gold, wheat, wool

and timber trades. The Fremantle site had no room for expansion and was already beyond capacity, with some engines being repaired in the open air. The new Chief Engineer, C. Y. O'Connor, appointed 1891, recommended an early relocation.

Midland was chosen because it was the junction of the railway line from Perth to Northam and the private Midland Railway to Geraldton, and land was readily available. O'Connor drew up the original plans, which were extended before building commenced in 1903. The three main blocks were doubled in size (1912) to accommodate expanded operations. The workshops were designed to assemble and repair steam locomotives, and manufacture tools and parts for engines, rolling stock and the railway system, ranging from massive bridge girders down to the dog spikes that held the rails to the sleepers. During the steam era, trades included boilermaker, blacksmith, car and wagon builder, fitter and turner, wood machinist and iron moulder, with small numbers of specialist craftsmen such as coppersmiths, drillers, dressers, brass moulders, carriage trimmers and patternmakers. Other workers included painters, plumbers, labourers and juniors. After diesel engines replaced steam, mechanical and electrical fitters took precedence where boilermakers had once been 'king'.

Medical examination of junior workers at the Railway Institute, Midland Railway Workshops, November 1939. Courtesy West Australian *(PP4539)*

Staff numbers steadily increased from 1,326 (including 125 apprentices) in 1912 to 2,850 (including 557 apprentices) in 1956–57, and thereafter decreased. During the Great Depression, however, the number of workers dropped from 1,821 in 1929 to 1,136 in 1931, and fewer apprentices were taken on in the early 1930s. The workshops were the state's foremost trainer of apprentices, with hundreds applying annually for 50 to 200 vacancies. During the 1970s the five-year trades apprenticeship was shortened to four and then three years. Female apprentices were admitted in 1988 but they were a very small group, with only one completing her apprenticeship at the workshops (on the eve of its closure) and another completing hers in the private sector, following the closure. Despite an emphasis on practical training, management encouraged promising apprentices to seize educational opportunities: three chief mechanical engineers (CME) had begun as workshops' trade apprentices. Others were trained engineers who came from England or elsewhere in Australia. To be CME was to be the 'boss' at the Midland Workshops; all but the last retired from this position upon reaching 65 years of age. The 'white collar' staff included the works manager, draughtsmen and male and female clerks, while the career path of workers remaining on the shop floor led to sub-foreman and foreman. Females were always in a minority on the site. Only two industrial nurses served in the Casualty Room (Sister Ashton, 1925–44; Sister Stent, 1944–50), but women were also employed in the works canteen from the 1930s and in the munitions annexe during the Second World War.

All employees belonged to a union. Originally, each trade had its own union, but by the closure, union amalgamations and the extinction of some trades resulted in only four unions representing employees. Despite the presence of activists, including communists, and poor and dangerous working conditions, the workshops experienced relatively few

industrial strikes over ninety years, with the longest (1952) lasting six months. On the shop floor, workers endured heat, noise, dust and a high risk of accidents from the machinery, flying splinters, molten metal and other hazards. Safety gear was introduced in the 1970s, while legislation in the 1980s resulted in stricter surveillance and fewer accidents, and may have reduced the frequency and violence of pranks and initiations perpetrated upon apprentices.

The demise of steam ended the workshops' role as a manufacturer of locomotives, but production of rolling stock, bridges, rails and other items continued, in particular for the standard gauge railway in the 1960s and 1970s. Aluminium replaced wood in carriage construction. The workshops' staff adapted to many changes in technology and management. Economy drives and 'multi-skilling' during the 1980s caused staff reductions. In 1993 the state Liberal–National Party government reneged on an election promise to upgrade and modernise the workshops by announcing their closure. Despite large-scale protests, the workshops closed on 4 March 1994, with workers being offered redundancy or relocation. The state lost a major industrial workplace and training facility, whose functions have not been absorbed by private industry. **Bobbie Oliver**

See also: Industrial relations; Labour culture; Manufacturing; Midland; Railways; Work, paid; Workers; Workplace associations
Further reading: P. Bertola and B. Oliver (eds), *The workshops: a history of the Midland Government Railway Workshops* (2006); B. Oliver (ed.), *Papers in Labour History*, 25 (September 2001); N. Ellis and C. Smyth, *Midland Railway Workshops: a history in pictures, 1904–2004* (2004)

Railways Western Australia's first railway lines were privately owned timber lines built in 1871–72 at Lockeville (near Busselton)

and Jarrahdale. The first government railway (1879) connected Geraldton with the lead and copper mines at Northampton. As a narrow gauge track it set the precedent for later lines. The Eastern Railway was constructed from Fremantle to Guildford (1880), Chidlow's Well (1884), York (1885) and Northam (1886). Two privately constructed railways were built in return for land grants. The Great Southern Railway (Beverley to Albany, 1889) was built for Anthony Hordern's WA Land Company, and the Midland Railway (Midland Junction to Walkaway, near Geraldton) was completed in 1894 for the Midland Railway Co. The government purchased the Great Southern line in 1897 and the Midland line in 1964. In 1893 the South Western Railway (Perth–Bunbury) was completed. These lines served existing settled areas and opened the country for further settlement.

In the 1890s, hundreds of miles of railway were constructed to serve the goldfields: the Eastern Goldfields line (Northam, Kalgoorlie, Menzies, Leonora, 1896–1902); Golden Loopline (1897–1902); Northern Line extending to the Murchison goldfields (Geraldton, Mullewa, Meekatharra, Cue, 1894–98); and Port Hedland–Marble Bar line (1911). In 1917 the standard gauge Trans-Australian Railway was opened to Kalgoorlie from Port Augusta, which was connected to Adelaide and Melbourne via pre-existing broad gauge and narrow gauge lines. Between 1900 and 1931 a network of light agricultural lines was built throughout the South-West and the central Wheatbelt.

All lines featured dams and tanks for water for the steam locomotives and refreshment rooms for passengers. Early railway buildings (1880s–c. 1900) were generally brick or stone, such as the gatekeeper's house (Bluff Point–Walkaway, 1886), combined station building and stationmaster's residence (Beverley, York, Moora), platelayer's two-room cottage (Goongarrie, Menzies), and metropolitan station master's house (Karrakatta, Kelmscott). Inability to easily relocate stone

or brick buildings when services changed led to the construction of timber station buildings and houses in many areas from the 1920s. Other railway structures included corrugated-iron goods, engine and carriage sheds, loading platforms with cranes, coal stages, water tanks on towers, signal cabins and railway barracks.

From the late 1940s some country lines and services were progressively closed as road transport took precedence. Passenger trips by rail peaked in the late 1950s, and rail transport of small goods, wool and livestock ceased by the 1980s. The length of railways in WA reached its peak at 8,200 kilometres in the 1940s (7,500 kilometres in 2003). Steam locomotives were replaced with diesel-electric between 1954 and 1971, steam travel living on in some tourism operations. Mining also provided another impetus to rail construction in the 1960s and 1970s, with the major routes replaced with standard gauge lines radiating from Kalgoorlie to Fremantle, Kwinana, Leonora and Esperance, and new standard gauge lines from mining centres such as Tom Price, Mount Newman, Agnew and Leinster.

Passenger services that survived the closures of the 1950s were the Perth–Bunbury *Australind* express, the Perth–Kalgoorlie *Westland* (later the standard gauge *Prospector*) and the Perth metropolitan services. The

Comissioner for Railways C. Wayner and Minister for Railways Charles Court, signing a contract for standard railways gauge, October 1962. Courtesy West Australian *(Z5907)*

Indian Pacific serviced the Trans-Australian Railway, completed to Sydney in 1970. More recently, passenger rail services have been expanded, with restoration of the closed Fremantle–Perth line (closed between 1979 and 1983) and construction of the Perth northern suburbs line in the 1990s, and the Perth–Mandurah line, opened in December 2007.

In 1994 the interstate rail freight service was taken over by National Rail Corporation Ltd (now Pacific National Pty Ltd), and in 2000 the remaining freight services were acquired by the Australian Railroad Group Ltd (ARG), and non-metropolitan track leased to its subsidiary, Westnet Rail. In 2002 the Western Australian Government Railways (WAGR), known as Westrail after 1975, became part of the newly formed Public Transport Authority. Some of the early railway buildings, no longer needed for their original purpose, have been put to other use by local communities. **Irene Sauman and Joseph Christensen**

See also: Trans Australian Railway; Transport

Further reading: F. Affleck, *On track: the making of Westrail, 1950 to 1976* (1978); G. J. Higham, *One hundred years of railways in Western Australia, 1871–1971* (1980); A. Gunzburg and J. Austin, *Rails through the bush: timber and firewood tramways and railway contractors of Western Australia* (1997)

Rajneesh (Orange People) Followers of the Indian teacher Bhagwan Shree Rajneesh (1931–1990), later known simply as 'Osho', were commonly dubbed the 'Orange People' on account of their orange clothing. Born a Jain, Rajneesh gained a wide following among westerners during the 1970s for his mixture of traditional Indian religious teachings, the psychological language of the hippy counter-culture, and his advocacy of a free, permissive lifestyle ('with awareness'). Rajneesh established a major centre (ashram) in Pune,

west India, and encouraged his disciples to form their own communities throughout the world.

Strictly speaking, the Orange People were more correctly known as 'neo-Sannyasins', a term based on the title used by traditional Indian religious renunciants with whom they had almost nothing in common. Besides wearing orange clothing and a wooden necklace featuring a photograph of Rajneesh, followers also adopted an Indian name and committed themselves to an hour of meditation each day, usually practising one of the forms of meditation devised by Rajneesh himself.

Rajneesh's teachings were first introduced into Western Australia in 1976 by the psychologist James Coventry (Swami Indivar) and a few others who had travelled to Pune. Two centres were established in WA late in that year: Sahajam in Victoria Park, and Shanti Sadan at Forrestdale, some 20 kilometres south of Perth. After 1980, the main centre for the movement moved to Ikkyu House in Fremantle, where the group was active in other pursuits, such as the restaurant Zorba the Buddha.

There were perhaps about 500 members of the group in WA in the 1970s and 1980s, including many who lived in the country areas of Margaret River and Pemberton following alternative lifestyles. Here they were met with mixed reactions from the fairly conservative South-West country people, verging on hostility in the Pemberton area where the Orange People purchased land with a view to setting up a commune. Spurred on by a confrontational *60 Minutes* television interview in 1985, furious locals attended 'anti-cult' meetings in Pemberton and Manjimup. The group also attracted negative publicity over their alleged 'free love' lifestyles when the Concerned Christians Growth Ministries (CCG) took an interest in the sect. Further media involvement led to anti-sect public meetings and debates throughout Perth. In 1982 the Orange People were also forced to defend themselves against derogatory

articles and letters published in the local newspapers.

In 1985, following the sensational collapse of the movement's major centre, Rajneeshpuram, located since 1981 in Oregon USA, the Orange People as a group moved on. Sannyasins no longer wore orange, some dropped their Indian names, and the various local centres gradually disintegrated. Nevertheless, many individuals remained in the South-West coastal areas and around Fremantle. **Harry Aveling and Keryn Clark**

See also: Communities, intentional (alternative); New Age; Spirituality and religion
Further reading: H. Aveling, *The Laughing Swamis* (1994); W. A. van Leen, *O is for Orange: an examination of the Rajneesh Religion, also known as the Orange People* (1983); C. Wright, *Oranges and Lemmings: The story behind Bhagwan Shree Rajneesh* (1985)

Real estate and land development was fundamental to the establishment of the Swan River colony in 1829, whereby settlers were granted land according to the amount of capital and the number of labourers they introduced to the colony. Lieutenant-Governor James Stirling selected grants of land for himself for services rendered. These very early land grants ran along the Swan, Canning and Helena rivers with many established as strips running at right-angles to the rivers. In suburbs such as Maylands, Bayswater and Belmont these very early allocations are still reflected in modern road patterns.

In the mid nineteenth century a number of ambitious land settlement schemes were established, including Peel's syndicate (Cockburn Sound, 1830), the Western Australian Company (Australind, 1841), Colonial Assurance Company (Greenough, 1852), Camden Harbour Pastoral Association (West Kimberley, 1864), Roebuck Bay Pastoral and Agricultural Association (Broome area, 1864), and Denison Plains Association (East Kimberley, 1865).

Primarily set up to enrich the promoters with some element of land speculation, most failed due to factors including unsuitable soils, the harsh environment, pests, lack of agricultural skills, lack of sufficient working capital, and remoteness.

Before the widespread ownership of private motor vehicles, the development of Perth's public transport infrastructure was fundamental to the opening up of new subdivisions. The Guildford–Perth–Fremantle railway's opening in 1881 gave an impetus to subdivisions along its route at places such as Subiaco (in particular, the 'Perth commonage'), Claremont, Cottesloe, Buckland Hill and Bassendean. The railway's location north of the Swan River delayed the subdivision and development of areas to the south, especially Attadale, Applecross and Mount Pleasant, although ferry services to the south bank of the river from Perth were started in the 1890s. From 1899 tramways were constructed, starting from Perth and servicing suburbs such as Osborne Park, Nedlands and Melville (the latter from Fremantle). In the 1920s the establishment of bus routes gave impetus to the development of suburbs such as Como, Melville, Mount Lawley and Scarborough, as well as infill to Daglish and Wembley.

Although there was statutory control of auctioneers in the nineteenth century, land or real estate agents as such were not regulated until the *Land Agents Act 1921*, which stayed in operation until superseded by the *Real Estate and Business Agents Act 1978*. The forerunner of the present Real Estate Institute of WA was formed in 1918 as the Auctioneers, Land and Real Estate Agents' Association. Among its achievements are the Multiple Listing Bureau, the Joint Conditions for the Sale of Land (with the Law Society of WA), and many standard forms covering a myriad of real estate transactions.

The period from 1945 was associated with the baby boom, a high level of immigration, the lifting of building restrictions, and the beginnings of industrial development. The latter saw British Petroleum constructing an oil refinery at Kwinana in the mid 1950s, together with the establishment of four nearby purpose-built towns: Medina, Orelia, Parmelia and Calista. The government-sponsored Kewdale Industrial Area was developed in the late 1960s.

From 1963 the main planning control for the Perth metropolitan area was the Metropolitan Region Scheme, supplemented in 1970 by the Corridor Plan with its four designated corridors and five sub-regional centres: Joondalup, Midland, Armadale, Fremantle and Rockingham. Starting with the subdivision of the Whitfords area about 1970, the north-west (coastal) corridor experienced the most rapid development, the main constraint being infrastructure (in particular, sewerage). Construction of its sub-regional centre, Joondalup, commenced in 1971. Joondalup was linked with Perth City by a railway in the early 1990s. An unusually located subdivision further along the coast in the north-west corridor is Alan Bond's Yanchep Sun City, developed in the early 1970s and associated with his early attempts to win the America's Cup. Residential and non-residential development extends along the south-west corridor south of Fremantle to the manmade Dawesville Channel south of Mandurah. To the south and east of Mandurah are several canal developments that allow residents to moor their boats next to their houses.

The introduction of strata titles legislation in WA in 1966 (redrafted in 1985) was of great importance in facilitating forms of property development. From the 1970s through to the 1990s much of the Perth Central Business District was redeveloped, with almost all the buildings along St Georges Terrace replaced by modern office blocks.

Major regional shopping centres have been established since the 1960s: Centro Galleria (Morley), Garden City (Booragoon), Karrinyup, Westfield Carousel (Cannington) and Westfield Whitford City (Hillarys). A number of essential industrial areas were established outside

the Perth CBD, some of which also include significant commercial activities: Balcatta Industrial Area, Bellevue, Belmont, Canning Vale Gardens Industrial Estate, Davison Industrial Area (Maddington), Henderson Industrial Estate, Kewdale/Welshpool, Malaga Industrial Area, Naval Base/Kwinana Beach/East Rockingham, North Coogee, O'Connor Industrial Area, Osborne Park Industrial Area, South Armadale Industrial Area, Tonkin Industrial Area (Bassendean), and Wangara/Landsdale.

Since 2001 residential commencements have exceeded completions with a consequent rapid uptake of newly subdivided residential lots causing land prices to rise. In the case of apartments, many were sold 'off the plan'. During 2005 and 2006 Perth residential prices increased rapidly. The main causes of the demand for residential real estate were a buoyant economy, resulting from high global (particularly Chinese) demand and high prices for Western Australia's raw materials, and increased migration into WA, both from overseas and interstate.

Real estate companies founded in WA and still operating today include Peet & Co (established 1895), Joseph Charles Learmonth Duffy (established 1898), Richard Noble & Co (1913), and Roy Weston (1957). **Lindsay Peet**

See also: Buses; Camden Harbour; Ferries; Fremantle; Peel Estate scheme; Railways; Retailing; Roads; Suburban development; Town planning

Further reading: P. Firkins (ed.), *A history of commerce and industry in Western Australia* (1979); J. Gentilli (ed.), *Western landscapes* (1979); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979); A. Thomas, *A Terrace walk & half a rood: a history of real estate in Western Australia since 1829* (1993)

Red Cross The Red Cross commenced operations in Western Australia in 1914, when several branches were established in the days following the outbreak of the First

Members of the Junior Red Cross at Inglewood State School collect flowers for wounded and sick members of the forces in hospital, 1940s. Courtesy West Australian *(Z5907)*

World War. The war dominated these formative years, as nurses were organised by the Society into Voluntary Aid Detachments for service overseas; medical supplies and 'comforts' were dispatched to the troops at the front; convalescent homes were created for the care and rehabilitation of the wounded; and a bureau was formed to trace missing soldiers and prisoners. In 1920 the establishment of the Bush Nursing Society was funded by money from the British Red Cross as part of a gift from them in recognition of Australia's help in the First World War. The Silver Chain Nursing League administered the bush scheme with the Red Cross. The major activity was the establishment of hostels for pregnant women in country towns while they awaited confinement.

The onset of the Second World War saw similar activities for service personnel as had occurred during the First World War. A blood transfusion service was inaugurated in 1935; expansions to the service occurred during the 1940s and after the opening of Red Cross headquarters in Wellington Street in 1958;

and the society has maintained full responsibility for the supply of blood within the state ever since. Other services performed in the postwar decades included hospital visiting, patient transport, welfare and counselling, supplementing supplies to hospitals and other institutions, fundraising, and support for the Silver Chain Bush Nursing Association. By the end of the twentieth century, first aid courses had been added to the list of Red Cross services. Staffed by a core of trained professionals and a large body of volunteers, the Red Cross has a proud record of improving health, preventing disease, and mitigating suffering in WA. **Joseph Christensen**

See also: Bush Nursing Society; First World War; Silver Chain

Reformatories were set up in Western Australia in the nineteenth and early twentieth century for incarcerating children convicted in the ordinary courts, usually for acts of larceny. In 1879 Governor Ord decided that a reformatory should be built at Rottnest, to take convicted boys of European descent previously held at Perth or Fremantle gaols or sent to one of the orphanages. It was opened in 1881, and in 1882 an Act was passed to designate Rottnest Reformatory an 'industrial school' so that its activities could be regulated by the 1874 *Industrial Schools Act*, which had defined all existing orphanages and missions as 'industrial schools'. Under clause nine of this Act, children convicted for a longer term than three days could be detained in any industrial school by the governor in Executive Council 'for a period of not less than two years and not more than five years', but not beyond the age of fourteen for boys and sixteen for girls.

Although the Rottnest Reformatory was built to house convicted children, they were still sometimes sent to orphanages and, on the other hand, destitute and neglected children were sometimes sent to Rottnest. The *Industrial and Reformatory Schools Act*

of 1893 attempted to clarify this situation. This Act was a response to the growing social chaos during the gold-rush period, when more children were convicted of larceny, larrikinism and truancy or needed state support. Convicted children were detained in a reformatory, could be discharged at any time by the governor, could be put out to service for a period not exceeding three years, and could be privately whipped if they attempted to abscond. This Act also authorised the building of a Government Reformatory and Industrial School at Subiaco (1894), while the Catholic Church built the St Kevin's Industrial School and Reformatory at Glendalough (1897).

When Rottnest Reformatory closed in 1901, these convicted children were sent to the three Salvation Army Reformatory Schools for Protestant Boys and Girls at Collie, known as 'farm' schools, consolidated into two schools in 1903. The Roman Catholic Home of the Good Shepherd at Leederville, which was established in 1902, and the Redhill Industrial School for Boys, opened by the Church of England in 1903, also took convicted children.

The *State Children Act* of 1907 repealed the acts of 1874 and 1893, set up Children's Courts, and created a new bureaucracy to deal with the needs of children in the form of the State Children's Department responsible to a government minister. An industrial school, now the preferred term, was defined as 'an institution … for the detention, maintenance and training of children found guilty of an offence … and includes a reformatory'.

In 1917 the Salvation Army sold its properties at Collie and sent nearly two hundred children to institutions at Cottesloe, West Subiaco and to a children's industrial school called Seaforth at Gosnells, which lasted until 1955, except for wartime evacuation between 1942 to 1945. In 1921 both St Kevin's and Redhill industrial schools were closed and the children moved to Seaforth. In 1947 the Church of England began to develop Padbury Boys' Farm School at Stoneville,

some thirty kilometres east of Perth. This was essentially for migrant children who were technically state wards. After problems occurred at Seaforth, the government closed that centre in 1955 and leased the Anglican property at Stoneville. The migrant boys were removed elsewhere and the Stoneville Farm School, as it was now called, became a centre for delinquent and convicted children.

Under the *Child Welfare Act* of 1947, which repealed the Act of 1907, convicted children could be sent to industrial schools until eighteen years of age or for a lesser period, or, if over sixteen years, for a period of two years. The governor could extend the term of a female 'ward' until twenty-one years. Other options included release on a good behaviour bond, release on probation, or release to parents who would undertake to punish the child themselves.

After the passage of the *Community Welfare Act* of 1972, the departments of Native Welfare and of Child Welfare were amalgamated to become the Department of Community Welfare, thus placing the care of Aboriginal and European children under one department for the first time since the 1874–1905 period. The name of the department was later changed to the Department for Community Services and then to the Department for Community Development.

From the 1960s, attitudes towards the treatment and punishment of children began to change. Many state and private institutions, both old and new, now provided for convicted and neglected children, but with increasing flexibility in placements. By the 1980s the Home of the Good Shepherd, for example, received girls who had been committed under the *Child Welfare Act*, those placed by parents who were unable to control them, and older girls who chose to live there to escape life on the streets.

New state facilities opened from this period. Riverbank in Caversham was opened in 1960 as a maximum security establishment for boys aged eleven to eighteen years, while Nyandi opened in 1970 to house girls in this category. The name Stoneville was changed to Hillston and it became a medium security establishment. Longmore Assessment Centre, Longmore Remand Centre, Bridgewater Child Care and Assessment Centre and Mount Lawley Reception Home took both boys and girls for short periods until they were sent on to other institutions or released. In some cases, convicted children were sent to one of the institutions in the private sector.

Increasingly, there were other publicly funded facilities spread throughout the metropolitan area and the countryside which provided halfway houses for those children being released from detention, for the temporary care of children who were to appear before the Children's Court, or for children who had come to the attention of the department because of their disruptive behaviour. Open hostels provided accommodation for young people while they searched for work or reordered their lives.

By 1985 the Department for Community Services Report listed the alternatives to incarceration used to deal with 80 per cent of child offenders. Riverbank, Longmore and Nyandi still operated as secure detention centres for children charged with serious crimes. For the last twenty years of the twentieth century, the rhetoric of the department has stressed the need for rehabilitation and the dangers of institutionalising children.
Penelope Hetherington

See also: Children; Imprisonment; Orphanages; Poor houses; Rottnest Island; Welfare
Further reading: E. Edwards, *The treatment of juvenile offenders in Western Australia as part of an overall review of the* Child Welfare Act (1982); A. Haebich, *Broken circles: fragmenting indigenous families, 1800–2000* (2000); P. Hetherington, *Settlers, servants and slaves: Aboriginal and European children in nineteenth century Western Australia* (2002); P. Joske, C. Jeffery and L. Hoffman, *Rottnest Island: a documentary history* (1995)

Refugees According to the *1951 Convention Relating to the Status of Refugees*, refugees are persons living outside their own country who firmly believe that if they return they will be persecuted because of their race, religion, nationality, political opinion or membership of a particular group.

Refugees settled in Western Australia long before Australia ratified the Refugee Convention in 1954. From the 1930s, growing numbers of Jewish people fleeing anti-Semitism in Europe sought asylum in Australia. Although backed by influential Western Australians, a two-decade campaign to establish a community of Jewish refugees in the Kimberley region was finally knocked back in 1950.

The first large group of refugees to arrive in WA after the Second World War came as part of the Commonwealth government's Displaced Persons Scheme. They were mainly from the Baltic states and from eastern Europe, predominantly Poland. Approximately 19,000 initially settled in WA, including 8,000 Polish. Following political unrest in their countries, Hungarians (1956), a high proportion of whom were intellectuals and professionals, and Czechoslovakians (1968) sought refuge in Australia; by 1986 there were 1,341 Hungary-born and 832 Czechoslovakia-born people living in WA.

Refugees in WA: Malaysian and Far Eastern Association's Children's Christmas Party at the Luxor Theatre, December 1942. Courtesy West Australian *(WAR2783)*

From 1973, Chileans fleeing the Pinochet regime and East Timorese escaping the Indonesian invasion of their country were accepted as refugees, but comparatively small numbers settled in WA. According to the 2001 census, 1,231 people, or 0.1 per cent of the WA population, identified Chile as their birthplace, compared with only 370 who identified as East Timorese.

The fall of Saigon to North Vietnamese forces resulted in many Vietnamese fleeing their country. Their unheralded arrival in small boats off the Australian coast led to the formulation in 1977 of Australia's first official refugee policy, which included an ongoing commitment to accept refugees. The Vietnamese were the first large group of Asians to be granted refugee status. From 1975 to 1990 most arrivals from Vietnam were refugees. At the time of the 2001 census there were just over 11,000 people (0.6 per cent) with Vietnamese ancestry in WA.

Persecution of members of the Baha'i faith during the Islamic Revolution (1979) in Iran forced many Iranian Baha'i people to apply for refugee status. The 1996 census indicates that 1,438 Iranians were living in WA, though it is unclear how many of those were refugees. Following the Tiananmen Square massacre (1989), Chinese students studying in Western Australian education institutions were also granted refugee status.

Throughout the 1990s, refugees from all parts of the former Yugoslavia were granted permanent protection and began settling in WA. In contrast, in 1999 about 380 Kosovars fleeing the conflict between the ethnic Albanians and Serbs, and 213 East Timorese fleeing political instability following democratic elections in their country, were granted temporary 'safe haven' at the Leeuwin Army Barracks in East Fremantle. Most returned when their country was deemed safe.

Political and social unrest in Afghanistan and Iraq in the 1990s and early 2000s contributed to a dramatic increase in asylum

seekers arriving off the coast of WA in small 'unauthorised' boats and without valid visas. Referred to as 'onshore' applicants by the Commonwealth Department of Immigration, Multicultural and Indigenous Affairs, many were detained at the Port Hedland detention centre in the Pilbara, which was set up in 1991. The following year, with the passing of the *Migration Reform Act*, detention became mandatory for all asylum seekers who arrived in Australia without visas; however, in September 2001, under the *Migration Amendment (Excision from Migration Zone) Act,* the Commonwealth territories of Christmas Island and Cocos (Keeling) Islands were removed from Australia's migration zone. When asylum seekers arrive on those islands, they are no longer able to apply for a visa. To conform to the United Nations Refugee Convention, the Australian government arranges for their refugee status to be assessed in another country, rather than being detained in camps in Australia. In June 2004 the Port Hedland centre was decommissioned and the residents transferred to the Baxter detention centre in South Australia.

Between the 1996 census and the 2001 census there was a rise in the number of Afghans living in WA, from 477 to 1,653 (a 246.5 per cent increase), and a 160.5 per cent increase from 457 to 1,477 in the number of Iraqis in WA. Those who arrived by boat and were deemed refugees were only given temporary protection visas of three years' duration. Prior to the passing of the *Migrant Amendment Act* in 1999 they would have been granted permanent protection. Temporary protection visas preclude holders from reunion with spouses and children. Thus the family life of many Afghan and Iraqi refugees living and working in WA has been seriously restricted.

Black South Africans escaping apartheid in their country were among the first refugees to arrive from that continent. Since the late 1990s, people from sub-Saharan Africa have made up the largest number of refugees settling in WA. For example, in the period 2003 to 2005, 98 Ethiopians, 186 Liberians and 912 Sudanese settled in the state. **Cheryl Lange**

See also: Asian immigrants, twentieth century; Eastern-central Europeans; Indian Ocean Territories; Jewish settlement, Kimberley; Jews; Middle Eastern immigrants; South-eastern Europeans

Further reading: L. Gettler, *An unpromised land* (1993); J. Jupp, *From White Australia to Woomera: the story of Australian immigration* (2002)

Religious orders, Anglican men After their dissolution at the time of the Reformation, religious orders were not founded in the Church of England until the mid nineteenth century. The first foundation in Western Australia was in 1911, when the Anglican Bush Brotherhood of Saint Boniface was formed at Williams by four priests who took temporary vows. They carried on the majority of the pastoral work in the eastern half of the diocese of Bunbury until the last Warden, John Frewer, left to become Bishop of the diocese of North-Western Australia in 1929.

The Anglican Society of the Sacred Mission came to South Australia from England in 1946. In 1960 it responded to an invitation from the Anglican Archbishop of Perth to work in WA, and to occupy a house in Walcott Street, Mount Lawley. Later the Society moved to Hardy Street, Hollywood, and then to Girrawheen. There were never more than four or five members of the society in Perth at one time, but they served in a number of chaplaincies, including those of the Mount Hospital and the Sir Charles Gairdner Hospital, The University of Western Australia and Perth College. They provided missions and retreats. In parish work they assisted in Nedlands/Hollywood and Applecross, and finally, as a team, they helped to set up the new parish of Girrawheen in 1975. The

society withdrew from WA in 1980, but returned for a time to take part in the work of Wollaston College in 1998–99. Since then there have been no male Protestant orders in WA. **Douglas Brown**

See also: Anglican church; Spirituality and religion
Further reading: J. Bartlett, 'The Brotherhood of St. Boniface', in J. Argyle (ed.), *Journey: a history of the Anglican Diocese of Bunbury, Western Australia, 1904 to 2004* (2004); J. Tonkin (ed.), *Religion and society in Western Australia: Studies in WA history,* 9 (1987)

Religious orders, Anglican women
Between 1901 and 1968 three protestant women's religious orders worked in Western Australia. The orders had their origins in the catholicising Oxford Movement in the Church of England and among educated and independent-minded middle-class women in Victorian England.

The Order of the Sisters of the Church arrived uninvited in 1901. From 1902 they successfully established and operated a school for middle-class girls at Perth College, which they believed to be the greatest area of need at the time. Forty-four sisters served in WA until they left the state in 1968. This religious order, of which Sister Rosalie (Mabel) Nicholas OBE (1866–1958) was a founding WA member, was the only one in the state to begin and end its work in girls' education without institutional support from a denominational hierarchy.

From 1903, another member, Sister Kate (Katherine Clutterbuck, MBE, 1861–1946), worked with destitute children in the state. She began the Cottage Homes method to care for these children at Parkerville. After leaving Parkerville Children's Homes in 1933, she established, with the help of a band of loyal supporters, the first home in the state for 'quarter-caste' Aboriginal children. When a more suitable property was found in 1934,

close to a government school, it became known as the Queen's Park Children's Cottage Homes.

Two Sisters of the Society of the Sacred Advent, established in Brisbane in 1892 to work among the poor and destitute in that city, managed Parkerville Children's Homes after Sister Kate left. Their contribution allowed the homes to remain open until the Anglican Church in WA took responsibility for them in 1941.

The Sisters of St Elizabeth of Hungary served British group settlers in the Anglican Diocese of Bunbury from 1928 to 1957 as part of a plan to bolster the idea of Church and Empire, but lack of money made it hard to foster and sustain such a faith community. Most notably, with finance from an English-woman, they built the Mary Clementina Hostel for girls attending Bunbury Senior High School and operated it between 1931–52. They are the only religious order of women in the state to have provided such accommodation for girls attending a state high school. **Noreen Riordan**

See also: Education, independent schools; Orphanages; Sister Kate's
Further reading: M. Bignell, *The little grey sparrows of the Anglican Diocese of Bunbury, Western Australia* (1992); C. May, *Built on faith: a history of Perth College* (2002); V. Whittington, *Sister Kate, a life dedicated to children in need of care* (1999)

Religious orders, Catholic men Since 1846 when Benedictines came to New Norcia and Missionaries of the Heart of Mary to the South-West, Catholic male religious orders have been present in Western Australia. Later, missionary groups also went to the North-West: Cistercians (1890–1900), Pallottines (from 1901) and Benedictines (from 1908). The increased population after the discovery of gold in the south attracted Oblates of Mary Immaculate and Christian Brothers (1894),

Redemptorists (1899) and Marist Brothers (1912).

Many orders came after 1945, particularly while Redmond Prendiville was Archbishop of Perth (1935–68). Vincentians had responsibility for St Charles Seminary (1948–75), Jesuits for St Thomas More College at The University of Western Australia (1954–99), and Camillians for a nursing home (1966–85) and hospital chaplaincies. Redemptorists preached parish missions, and their monastery in North Perth was a popular centre of spirituality. Several institutes had foreign missions as their main focus.

Numbers of religious throughout the world were at their highest ever in the 1950s. The Second Vatican Council (1962–65) called for a return to the initial inspiration of the founders, and for adaptation to contemporary conditions. The specific character of each institute became clearer after long years of homogenisation, when regular clergy were barely distinguishable from diocesan priests. Thereafter, there was better formation of members, more consultation and more personal responsibility.

Numbers dropped dramatically from the late 1960s onwards, and several orders withdrew from the state. Some new groups arrived, including a large contingent of Salvatorians from Poland. Since the 1960s the trend has been away from institutions towards ministries suited to the particular abilities of individual religious.

Prayer and community life under vows of poverty, chastity and obedience were constitutive of religious life, but all male religious in WA were also involved in active work, most commonly as parish priests or schoolteachers. Until the early 1960s some vocations to the novitiates came from their schools. Schools run by Christian Brothers, Marist Brothers, Jesuits, Servites, Oblates of Mary Immaculate, Norbertines, the Society of African Missions, De La Salle Brothers and some other orders made significant contributions to the intellectual and cultural life of WA Catholicism.

Other works included missions to Aboriginal communities, orphanages, and boarding schools for migrant boys. Sexual and physical abuse in some of those institutions resulted in adverse publicity in the 1980s and 1990s, apologies from the orders concerned, and assistance for the victims.

Cooperation with bishops and secular clergy has been smoother since some stormy times between 1846 and 1862. The Pallottines supplied bishops to Broome from 1929 to 1995. The leaders of religious men and women, jointly with the bishops, established the Catholic Education Office and the Catholic Pastoral Institute. From 1985 male and female religious together formed the WA Council of Religious Institutes. In 2004 there were twenty-two clerical congregations in WA and three orders of Brothers; total membership was about 205.

Most orders have had strong support from lay associates; several have successfully imparted their specific charisms to laity who have taken over management of their institutions. **Placid Spearritt**

See also: Catholic church; Education, Catholic; New Norcia; Spirituality and religion
Further reading: D. F. Bourke, *The history of the Catholic Church in Western Australia* (1979); B. M. Coldrey, *The scheme: The Christian Brothers and childcare in Western Australia* (1993); A. Cooper, *A Little by Ourselves: Oblates of Mary Immaculate Australia 1894–1994* (1994); K. Paull, *Beyond dreams in stone: a history of the Christian Brothers' Colleges in Western Australia 1894–2000* (2001)

Religious orders, Catholic women The settlement of Western Australia in 1829 coincided with a worldwide expansion of Catholic religious orders devoted to service overseas. Soon after the establishment of a Catholic diocese in the colony, the Sisters of Mercy arrived from Ireland in 1846, founding the

Mercy Convent and school at Victoria Square in central Perth that still exists as Mercedes College, the longest surviving secondary school for girls in Australia. Offering a better education for girls than any predecessor, with emphasis on music and cultural skills, the school attracted many non-Catholics. A second school founded in Fremantle in 1848 lasted only two years. With rural expansion the Sisters established Guildford (1858), York (1872), Bunbury (1883) and Toodyay (1884). They also established an orphanage and a foundling home in 1868. In 1855 the Sisters of St Joseph of the Apparition, a French Order, commenced teaching at Fremantle. The Sisters of St Joseph of the Sacred Heart (an Australian Order founded by Mary MacKillop) came to Geraldton in 1884 and then to the Eastern Goldfields in 1897.

Major expansion under the inspiration of Bishop Matthew Gibney followed the gold rushes of the 1890s and the ending of government aid to church schools. During Gibney's episcopate, seven more Orders arrived: the Presentation Sisters (1891); the Sisters of St John of God (1895); the Sisters of the Institute of Notre Dame de Missions (1897); the Sisters of Mercy—West Perth Congregation (1896); Dominican Sisters (1899); the Sisters of the Congregation of the Good Shepherd (1902); and, at New Norcia, the Spanish Teresian Sisters (1904–08) were followed by the Benedictine Oblate Sisters (1908) charged with caring for Aboriginal children. Of these Orders, St John of God founded several hospitals throughout WA, including the Derby Leprosarium (1937), and the Good Shepherd Sisters established a home for women in misfortune at Leederville. The others were teaching Orders who, with their predecessors, bore the brunt of educating girls and young children in the Catholic system for most of the twentieth century.

During the twentieth century these Orders were joined by the Little Sisters of the Poor (1920), caring for the infirm and elderly; the contemplative Carmelite Sisters (1935); the

Pioneer Presentation Sisters in Melbourne 1900, prior to their departure to Southern Cross. Courtesy Ruth Marchant James

Sisters of Nazareth (1938), working first at Tardun farm school and later with the infirm and elderly in Geraldton; and the Brigidine Sisters (1942), a teaching order. Since 1945, further orders have established themselves in the state, among them the Sisters of Our Lady of Compassion (1949); Schoenstatt Sisters of Mary (1951), undertaking teaching and missionary work; Poor Sisters of Our Lady (Hungarian Sisters; 1952) working with Clontarf, aged care and the Hungarian community; Sisters of the Holy Family of Nazareth (1954), a teaching order; the Daughters of Charity of St Vincent de Paul, who established a centre for the distribution of meals and food to the needy, a night shelter for destitute women and a hospital (1956); the Holy Family of Nazareth Sisters (1957); the Ursuline Sisters (1962), establishing kindergartens; the Franciscan Missionaries of Mary (1962); the White Sisters of Mother of Sorrows (1970), a teaching Order; Sisters of the Good Samaritan of the Order of St Benedict (1986), a teaching Order; Servants of Mary Immaculate (1996), who work with the Ukranian community; Missionary of Charity Sisters; Franciscan Sisters of the Immaculate at Toodyay (1999); Our Lady of the Cenacle (1993), undertaking spiritual and parish work; and Missionaries of Charity (2002).

In recent decades vocations have declined both in Australia and from overseas. As a

result the total numbers of religious sisters has decreased dramatically. The orders have in some cases changed from teaching and nursing and expanded their apostolic work into other areas. Others have left the state.
Geraldine Byrne

See also: Aged care; Catholic church; Education, Catholic; Homelessness; Orphanages; Poor houses; Poverty; Spirituality and religion; St John of God hospitals
Further reading: D. F. Bourke, *The history of the Catholic Church in Western Australia 1829–1979* (1979); G. Byrne, *Built on a hilltop: a history of the Sisters of the Good Shepherd in Western Australia 1902–2002* (2002); G. Byrne, *Valiant women: letters from the foundation Sisters of Mercy in Western Australia, 1845–1849* (1981); R. Marchant James, *Cork to Capricorn: a history of the Presentation Sisters in Western Australia 1891–1991* (1996); R. Marchant James, *Fields of gold: a history of the Dominican Sisters in Western Australia* (1999)

Repatriation, First World War Of 23,700 Western Australian servicemen repatriated after the First World War, 15,900 were injured temporarily or permanently. State War Councils of prominent citizens, to oversee the repatriation of invalids, provide artificial limbs and vocational training, and act as employment agencies, were financed by a mix of Commonwealth-funded Repatriation Funds and private donations. Tensions developed between 'charity' advocates and those who believed the care of returned soldiers was a government responsibility. The 1914 *War Pensions Act* provided federally funded pensions for permanently disabled ex-servicemen and their dependants. In July 1920, pensions became the responsibility of the Commonwealth Repatriation Department. Many expenses, including relief to needy families, were paid out of patriotic funds. Postwar, a major fundraiser, the Ugly Men's Association,

helped the state government establish a farmers' training school for ex-servicemen. The ALP's Repatriation Committee lobbied the state government to set up public works programs to employ able-bodied ex-servicemen and assisted in relocating those who could not return to their prior employment because of disabilities. Others were offered the opportunity of taking up farms through the group settlement schemes of the 1920s, mainly in the state's South-West. The Returned Soldiers' and Sailors' Imperial League of Australia (RSL)—subsequently the Returned Services League—founded in 1916, with a membership of over 5,000 by 1921, was a major player in repatriation, its aims including providing for the sick, wounded and needy. Despite an avowed non-partisan stance, the RSL was politically conservative, supporting Country Party candidates for state and federal elections. This, and the RSL's support of conscription and its policy that preference in employment should always be given to returned service personnel, irrespective of whether they belonged to a union, caused tensions with the labour movement. In 1919 some sub-branches broke away from the RSL and formed a rival, short-lived organisation, the Returned Sailors' and Soldiers' Association of Australia (RSA), which claimed to address the needs of ordinary ex-servicemen more adequately than the 'brass hat' hierarchy of the RSL.

By 1921, military pensioners—who, with their dependants, comprised almost seven per cent of the state's population—received £1 1s 47d per fortnight with an additional rate of 18s 1d for dependants. Public records of the period contain many instances of pensions being refused or withdrawn. The Repatriation Department's decisions were influenced by medical officers such as Colonel Hadley, the Officer in Charge of Fremantle Base Hospital, who claimed that the wounds of some soldiers were 'paltry' and that they would be better off working than 'loafing about'. Sufferers of war neurosis, or 'shell shock', spent varying

periods in institutions such as the Claremont Hospital for the Insane, Stromness Hospital and the Kalamunda Convalescent Home, where some remained for the rest of their lives. Similarly, Lemnos and Wooroloo hospitals catered for tuberculosis sufferers. The evidence suggests that Australia was poorly prepared for the business of repatriating and caring for soldiers, and that even those who returned relatively sound in mind and body often suffered from an unnecessarily protracted and often unjust repatriation process.
Bobbie Oliver

See also: Land settlement schemes; Repatriation hospitals; Repatriation, Second World War; Returned and Services League; Tuberculosis; Ugly Men's Association
Further reading: S. Garton, *The cost of war: Australians return* (1996); B. Oliver, *War and peace in Western Australia: the social and political impact of the Great War, 1914–1926* (1995)

Repatriation hospitals From 1885, military forces from the Australian colonies were officially involved in conflicts overseas, and Commonwealth contingents served in the Boer War after Federation. Patriotic funds raised through private subscription provided the only assistance to returning servicemen, until the *Defence Act* of 1903 made provision for the establishment of funds to provide annuities or gratuities to members of the defence force permanently injured in the performance of their duties, and those who were retired on account of age or infirmity. Following the outbreak of the First World War, the *War Pensions Act* of 1914 made provision for pensions payable to members of the forces, or their dependants, or both as the case might be, in the event of death or incapacity resulting from employment in warlike operations. In 1915 the War Committee established by the Commonwealth government recognised the need for some organisation to cater for

the problems of returning servicemen, and State War Councils were formed. Under their direction, War Service Committees were established in local government areas, which were largely responsible for the repatriation of invalided servicemen and their dependants. Under the *Australian Soldiers' Repatriation Fund Act* of 1916, trustees were appointed, including the prime minister and Senator Edward Millen, in whom the Fund was vested and under whose control it was placed. This Act was repealed by the *Australian Soldiers' Repatriation Act* of 1917, under which a six-man commission was appointed with powers to make recommendations to the governor-general for regulations to provide for the granting of assistance and benefits to Australian soldiers upon discharge from service; to children, under the age of eighteen, of deceased or incapacitated soldiers; and in special circumstances to the widows of deceased soldiers. The *Australian Soldiers' Repatriation Act* of 1918 amended the preceding Act, which as amended was cited as the *Australian Soldiers' Repatriation Act, 1917–18*. It provided for benefits and assistance to children of deceased or incapacitated soldiers while such children were under eighteen years of age, or by reason of physical or mental incapacity incapable of contributing to their own support; for children of soldiers still on active service who had become motherless or neglected; for widows of deceased soldiers; for mothers of deceased or incapacitated soldiers upon whom they were dependent; for fathers in similar circumstances if they had been dependent upon their son prior to his enlistment; and for free passage from abroad to Australia for wives and children of Australian soldiers who were unfit for service or returning to Australia at the termination of the war. The Act enabled establishment of the Commonwealth Repatriation Department, which commenced operations upon proclamation of the Act on 8 April 1918. The work of the department included health care for returned servicemen from the First World

War and subsequent conflicts, and it established repatriation hospitals in each state.

In 1920 the department took over the Rotunda Hospital (formerly a maternity hospital) in Victoria Park, which it renamed the Edward Millen Home after Senator Edward Millen, first Commonwealth minister for repatriation, who had introduced the Australian Soldiers' Repatriation Bill into parliament in July 1917. Developed by the department and, subsequent to the Second World War, the Repatriation Commission, the home was used for tubercular care of returned servicemen through to 1961, and thereafter for geriatric care, including psychiatric care, until 1980, when it was closed and its patients transferred to Repatriation General Hospital, Hollywood.

In 1926 Lemnos Hospital was built at Shenton Park to provide care for returned servicemen suffering from shell-shock mental illness. Original and later buildings were named in commemoration of conflicts in which the Australian services had fought. Lemnos Hospital continued to provide mental health care to ex-servicemen through to the 1960s, when these services were transferred to Edward Millen Home. Thereafter Lemnos Hospital became part of the Selby–Lemnos Complex, providing mental health services to the wider community,

In 1942, during the Second World War, the Repatriation General Hospital, Hollywood, was built in Nedlands as a 500-bed Australian General Hospital, known also as 110 Military Hospital, to provide healthcare for servicemen and women. From 1947 it was developed under the Repatriation Commission, providing acute care for war veterans and war widows and widowers. Commonly known as Hollywood Hospital, it served its original purpose through to 1994, when it became the first Commonwealth hospital to be privatised. Subsequently, under the terms of the agreement with the successful tenderer, Ramsay Health Care, the renamed Hollywood Private Hospital continues to fulfil

its earlier role as well as catering to the wider community. Naming of the hospital wards commemorates Western Australian recipients of the Victoria Cross and the George Cross, the highest awards for bravery in battle. **Robin Chinnery**

See also: Repatriation, First World War; Repatriation, Second World War
Further Reading: C. E. W. Bean, *Anzac to Amiens* (1993); C. Fitzgerald, 'An Extended Tour of Duty: Returned Service Personnel and Tuberculosis', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

Repatriation, Second World War Repatriation of ex-servicemen and women after the Second World War assisted the return to civilian life of those who had served the nation. Enlistments in WA (population 470,000 in 1939) numbered about 62,000, with more than 2,000 Western Australians killed in action. Demobilisation was completed by February 1947.

Repatriation, a uniquely Australian term for the resettlement of veterans, echoed that which had followed the First World War. The Commonwealth Repatriation Department (now known as Veterans' Affairs) administered a newly expanded pension and healthcare scheme for veterans with war-caused illnesses. Musculo-skeletal problems, tuberculosis and psychological disturbances were prevalent, as were parasitic diseases, skin diseases and ulcers. Hollywood Repatriation General Hospital, transferred from the Army in February 1947, provided ongoing treatment. Known since 1994 as Hollywood Private Hospital, it still provides healthcare service delivery to veterans and war widows. Healthcare has been the most significant aspect of repatriation, with many ex-service personnel now holders of Repatriation Health Entitlement Cards (an entitlement for those over seventy), giving them access to free private health cover.

War Service Homes loans were made available to servicemen who had served overseas, and to members of the Citizen Military Force, the nursing services, the women's auxiliary services and to war widows. Approved applicants could choose between a rental purchase scheme, private purchase or construction, within limits that were set by the conditions of the loan and varied over time. More than 17,000 applications for assistance under the War Service Homes Scheme were approved between 1944 and 1960. The State Housing Commission constructed more than 9,000 dwellings for the scheme. In Perth, home building was concentrated in the suburbs of Applecross, Bentley, Doubleview, Floreat Park, Manning, Mount Pleasant, Hilton, Scarborough, South Perth, Victoria Park and Yokine.

After the Second World War, the War Service Land Settlement Board embarked on a program of large-scale settlement of ex-servicemen on new farms in WA. Under the provisions of the Commonwealth War Service Land Settlement Scheme, eligible applicants were obliged to undertake agricultural training prior to taking up a farm. Initial land clearing, fencing and provision of water supply were undertaken, and basic housing provided, before farms were allocated on a

Army demobilisation scene: Army servicemen who have returned from war zones having medical examinations and check-ups before their discharge, November 1945. Courtesy West Australian *(WAR1268)*

subsidised purchase plan. Assistance was also provided with consumables, such as fertiliser, in the first year. By 1950 there had been 716 properties allocated in WA, mostly for wheat, wool, meat and dairy production, predominantly in already established areas. In the 1950s large-scale new land developments were undertaken, including those at Mount Manypeaks, Rocky Gully, Jerramungup and Eneabba. The success rate was better than in the interwar Soldier Settlement Scheme, with only one farmer in ten relinquishing his holding by 1960. Nevertheless, criticisms were voiced, especially in new land areas such as Jerramungup.

In the postwar period employers often gave preference to returning servicemen. Other workers, including many women, were displaced in the process, thereby causing some dissatisfaction until full employment returned. Other veterans took advantage of the new Commonwealth Reconstruction Training Scheme (CRTS). The numbers retraining, while small overall, were significant, making up more than a third of all enrolments at The University of Western Australia in 1947. Men, who dominated the enrolments, primarily undertook courses in arts, engineering, law, and science. Ex-servicemen and women also enrolled at Claremont Teachers' College after 1946, while many women enrolled in nursing. Vocational training at technical colleges attracted more applicants than tertiary training, and there was a strong preference for trade subjects, such as plumbing, metalwork and painting for men, and commercial subjects and dressmaking for women, reflecting the gender bias of the social structure of the time. The CRTS scheme flowed on to service personnel returning from the Korean, Malayan and Vietnam theatres of war. **Kerry Evans**

See also: Land settlement schemes; Public housing; Repatriation, First World War; Repatriation hospitals; Returned and Services League

Further reading: S. Garton, *The cost of war: Australians return* (1996); J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); A. Howard, *Where do we go from here?: compelling postwar experiences of Australian ex-servicewomen 1945–1948* (1994); C. J. Lloyd and J. Rees, *The last shilling: a history of repatriation in Australia* (1994)

Reservists are part-time members of the armed forces who are only deployed on a voluntary basis unless called out by the federal government. The first formal military reserve units in Western Australia (the Colonial Volunteers) were formed in 1861. In 1901 they were taken over by the Commonwealth. Subsequent reorganisation of the reserves from 1903–04 led to militia and volunteer arms. Compulsory universal military training for males aged from twelve to twenty-six commenced in 1911 and continued until 1929. The militia continued and expanded during the Second World War, especially when conscription started in 1943. The Volunteer Defence Corps operated during 1940–45. Citizen Military Forces were formed in 1948, becoming the Army Reserve in 1974.

The Naval Artillery Volunteers existed in Fremantle from 1879 to 1888. The reserve component of the Royal Australian Navy was formed in 1910 and appears to have served in WA at least from the 1920s. During the Second World War the Naval Auxiliary Patrol served on the Swan River and at Fremantle.

Air Force reservists existed in WA from the 1920s in connection with the air service from Geraldton to Derby and with the WA Aero Club in the 1930s. The main RAAF reserve component, the Citizen Air Force (CAF), existed from the 1920s but may not have served in WA until 1938. Postwar, CAF members in WA served with No. 25 Squadron. The General Reserve, which had existed prewar, continued. A University Squadron also existed in WA during the 1950s and 1960s. **Lindsay Peet**

See also: Air Force; Army; Colonial volunteers; Navy

Further Reading: T. W. Tanner, *Compulsory citizen soldiers* (1980)

Retailing Although there is information about the development of individual companies, little research has been undertaken on the general history of retailing in Western Australia. European settlers initially exchanged and bartered goods because of limited supply in the isolated colony. Later, wholesale importers dominated WA commerce in the wake of the repeated failure to maintain a manufacturing industry that could sustain domestic consumption. These wholesale merchants in turn supplied the smaller general retail stores. As the colony slowly developed in the second half of the nineteenth century, 'specialised' stores gradually emerged alongside general stores in which a variety of goods could be purchased. Such stores included drapers, haberdashers, butchers, bakeries and fruit and vegetable stores.

The sudden prosperity, dramatic expansion in population and settlement and heightened demand for goods associated with the gold rushes of the late 1880s and 1890s gave impetus to the development of local primary and secondary industries and led to an increase in the importation and, most importantly, the local production of manufactured goods. This was especially the case for one of Western Australia's largest department stores, Boan Brothers, which established a general emporium in Perth in 1895, and at its height encouraged local manufacturers like Joyce bedding and Nevarda shirts, as well as producing its own furniture and electrical goods. Other merchant businesses founded during this period that later became household names were Sandovers (1882), Brennan Bros drapers in Kalgoorlie (1896), Foy & Gibson in Perth (1895), Bon Marché drapers in Perth (1890s), and Bairds in Coolgardie (1896).

The turn of the twentieth century marked a significant change in retailing, with European

Brennan Bros Store, Kalgoorlie, c. 1915–20.
Courtesy West Australian *(HIST5676)*

and American concepts of the 'department' and 'variety' stores transported to Australia. The department store was a version of the general store but on a much larger scale, with greater variety and much more professional in terms of organisation, finishes and equipment. Here, the general store was subdivided into smaller specialised departments where products were formally displayed for customers, making it easier for them to see, get personalised service and make purchases. This approach to retailing coincided with the emergence of the notion of shopping for pleasure and as a leisure activity and resulted in the construction of large stores through which customers could walk and view elaborate display windows and cabinets and sometimes partake of refreshments. Prominent examples of national companies include David Jones's 1887 department store in Sydney and the Myer Brothers' 1911 emporium in Melbourne. In WA, the earlier premises of the gold-rush merchants and retailers made way for these large, elaborate department stores. Some of these department-store buildings still exist: the 1901 Bon Marché Arcade in Hay Street, Perth; the 1907 Sandovers store in Hay Street; the Bairds Arcade building (c. 1921) in Wellington Street; and Drew Robinson and Co.'s two-storey store in Albany.

One of the best-known department stores, Boans Ltd, comprised substantial, multi-storey frontages to both Wellington (1904) and Murray (1911/1912) streets in Perth, but was demolished in 1986 and 1987.

The Depression of the interwar period generally had a negative effect on retailing, especially on rural companies such as Brennan Bros and Drew Robinson & Co., which were eventually forced to close. The variety stores of the major national chains remained active, however, by offering low prices. Both Woolworths and Coles opened in 1932. Technological changes in this period also saw other companies thrive. Phonographs Ltd, for example, opened in Hay Street in 1927 during the heyday of radio and the gramophone. Renamed Wyper Howard in 1934, when Harry Howard became the owner, it diversified into household electrical goods and in 1957 became well-known electrical retail giant Vox Adeon Howard.

The post–Second World War boom engendered significant changes to retailing. Mass production and individual packaging and branding dramatically increased during the 1950s and 1960s. Preservatives and additives improved the shelf life of food products and in turn helped to create the pre-packaged convenience food industry. As a consequence, the retail industry, which for much of the nineteenth and twentieth centuries had offered the customer a personalised service whereby home deliveries were made, credit was available and goods were measured and dispensed, was transformed into an almost entirely self-service industry. This was especially evident in food retailing. Western Australia's Thomas Wardle revolutionised the grocery business by cutting profit margins, with a mark-up of only 10 per cent said to be standard in his stores. Opening his first 'Tom the Cheap' store in North Perth in 1956, by 1969 he had 185 stores throughout Australia before his company failed in 1977. Other WA 'super' markets included Freecorns and Charlie Carters, but these were eclipsed by multinationals such as Woolworths, Coles and Target, which

flourished by providing products at low prices in a convenient 'cash and carry' system. Like electrical giant Vox Adeon Howard, other retail businesses such as Parry's Department Store in West Perth offered similar low-cost products in the area of household goods.

In the same period, suburbanisation and the popularity of the car led to the development of the shopping mall/centre with its facilities for car-parking. Boans Ltd was the first to open up suburban shopping centres, with Waverley at Cannington in 1958, Morley in 1961, the Grove in Cottesloe in 1964 and Innaloo in 1967, and extended the concept to Geraldton, Bunbury and Albany. Between 1969 and 1973, ninety-two new retail shopping centres in the metropolitan area were approved by local government authorities. These included major centres like Carousel (formerly Waverley), Garden City and Midland Centrepoint, all developed in 1972, and Karrinyup in 1973. The advent of the supermarket and the suburban shopping centre resulted in the closure or takeover of long-running WA retail businesses that were unable to compete in this market. Foy & Gibson was purchased by Cox Bros Australia in 1961, sold to David Jones in 1964 and finally closed in the 1980s. Boans Ltd, then the oldest remaining WA-owned department store in Perth, was taken over by the Myer group in 1984 and its buildings at Murray and Wellington streets demolished to make way for Myer's new Forrest Chase complex, opened in February 1989. The 1922 Aherns business was bought out by David Jones in 1999/2000. More recently, the retail industry has been significantly affected by the World Wide Web. Since the early 1990s, online shopping, including auction sites such as eBay, have become increasingly popular due to the convenience of accessibility, payment and delivery, as well as the availability of goods at wholesale prices. **Kristy Bizzaca**

See also: Suburban development; Wholesaling
Further reading: P. Firkins (ed.), *A History of commerce and industry in Western Australia* (1979); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); B. Kingston, *Basket, bag and trolley: a history of shopping in Australia* (1994); K. Webber, I. Hoskins and J. McCann, *What's in Store? A History of Retailing in Australia* (2003)

Returned and Services League The Western Australian branch of the Returned and Services League (RSL) had its beginnings in 1916 when Colonel W. O. Mansbridge, DSO, VD, was elected the first state president. Two years later WA was welcomed to the national association. The RSL became a lobby group to influence governments to ensure just and fair repatriation benefits were available to war widows and returned ex-servicemen. With war memorials in almost every town and suburb, and an RSL sub-branch nearby, Western Australians witnessed the emergence of a powerful community organisation committed to upholding the principles of good citizenship, of right and justice and caring for those in need—not forgetting the motto, 'The price of liberty is eternal vigilance'. For the first sixty-seven years, membership was restricted to persons with overseas military service in a war zone. The 1970s was a time of change. Public disquiet over the Vietnam War and the RSL's perceived reluctance to embrace Vietnam veterans saw the emergence of many Unit-based ex-service organisations. This had a detrimental effect on membership of the generally recognised 'peak' ex-service body. To halt the decline, membership was thrown open to all men and women who had served in the regular Australian military services, or in the reserves, for six months or more.

The RSL is dedicated to preserving the memory of those Australians who died or suffered as a consequence of war, and to perpetuating the bonds of comradeship forged in shared service life. This is seen in the erection of war memorials and the supervision of the annual Anzac Day dawn services across the state and the march through the streets of

Perth. The RSL has an ongoing commitment to the care of ageing veterans, the widows of servicemen and, through Legacy, to the welfare and education of the children of deceased servicemen and women. Each year the sale of Flanders poppies for Remembrance Day, 11 November, combines thought for the valiant dead with the celebration of peace: 'Lest we forget'. **William E. Gaynor and Neville Green**

See also: Anzac Day; Armistice Day; Repatriation, First World War; Repatriation, Second World War; VP Day; War memorials

Rivers of Western Australia flow through an ancient landscape that defines their character. They can be grouped in a number of ways. One system defines the rivers by drainage divisions, large geographical areas following major geological and meteorological features. These are further subdivided into basins of major streams. The major divisions and basins are: Kimberley (previously Timor Sea Division) with part of the upper Ord catchment extending into the Northern Territory (10 basins); Western Plateau, an area of inland drainage except for some minor watercourses that enter the sea between Broome and Port Hedland, and which extends into South Australia and the Northern Territory (5 basins); Indian Ocean with subdivisions the Pilbara and Murchison–Gascoyne (10 basins); and South-West subdivided into the Mid-West Avon (includes the Swan Avon/Canning System), South-West and South Coast (19 basins). There are approximately 208 major rivers extending over 25,000 kilometres. The Gascoyne in the Pilbara, draining 73,000 square kilometres with a main channel of about 800 kilometres, is the longest river in WA. The Avon in the South-West drains the largest catchment (121,000 square kilometres). In terms of average annual discharge the Fitzroy in the Kimberley has the largest flow, in excess of 9,000 gigalitres.

Other groupings depend on the climate or landscape features. For example, the term 'Swanland', an old term used to define the temperate region of the state receiving more than 10 inches (280 millimetres) of rain per year, westwards of a line from Shark Bay through to the south coast near Esperance, includes rivers around the Murchison and Geraldton part of the Indian Ocean Division, along with those of the South-West.

Australia is the driest inhabited continent (only Antarctica is drier) and has the lowest runoff as a percentage of annual rainfall. Flow is also highly variable from year to year. In the north the climate is tropical, with summer monsoonal rain and cyclones. Further south the climate is Mediterranean and rain falls mostly in winter, associated with low pressure systems and cold fronts. In summer these pass to the south of the continent and high pressure systems bring warm dry air, although thunderstorms and dissipating tropical cyclones also bring occasional heavy falls and floods. Rainfall in the South-West is higher near the coast, and decreases inland and to the east. Rainfall and river flow also appear to have decreased since the 1800s.

Rainfall determines the characteristics of the landscape and the rivers, and influences settlement and development often focused on the rivers. Rivers, generally more heavily vegetated than the surrounding country, were the foci of Aboriginal people, offering shelter and serving to attract wildlife used for food. As a result, rivers and the pools within them feature in Aboriginal dreaming stories and oral history, detailing formation of the watercourse, cultural and ceremonial customs, and timing of wildlife availability.

River catchments have been modified by pastoralism, agriculture, mining, industry and urbanisation. Less than one per cent are considered pristine. Clearing of the native vegetation has brought elevated watertables, waterlogging and salinisation, increased surface flows and floods, leading to erosion and movement of sediments, nutrients and other pollutants into

lower parts of the landscape and water bodies. Algal blooms are increasingly common due to nutrient enrichment (eutrophication) as fertilisers are applied to the ancient soils. Algal growth and the link to fertiliser use are particularly evident in the period of development post Second World War. Loss of fringing vegetation along streamlines through clearing, stock access, or changes in water flow has reduced the capacity of streams to cope with changes upstream. Many rivers have been dammed or the flows diverted for water supplies. These include the Ord River in the Kimberley (1963 and 1971), Pilbara (1980s) and many streams and rivers through to the South-West, with the first, Victoria Reservoir in 1891, on a tributary of the Canning River.

Restoration programs for rivers and catchments are undertaken by government agencies and community groups. Projects include fencing to prevent entry of stock that destroy vegetation and foul water, reafforestation to reduce the water table and rising salt, and planting of riverbank vegetation to ameliorate the effects of flooding and erosion, which also functions as a buffer to nutrients entering the water. **Anne Brearley**

See also: Dams and reservoirs; Erosion; Geological history; Landcare; Ord River scheme; Rivers, Avon, Swan, Canning; Rivers of the Kimberley; Rivers of the Pilbara, Gascoyne and Murchison; Rivers of the South-West; Rivers of the Western Plateau; Water management; Wetlands

Further reading: R. Giblett and H. Webb (eds), *Western Australian wetlands: the Kimberley and South-West* (1996); Water and Rivers Commission, *Catalogue of water resources information 1996*, 1–3 (1996); Water and Rivers Commission, *Water WA: A state of water resources report for Western Australia* (2002)

Rivers, Avon, Swan, Canning Flowing through Perth, the Avon, Swan and Canning rivers are of great spiritual and cultural significance to Nyoongar people. Dreaming stories tell of ancestral beings such as the Waugal (Waakarl), a serpent that created and then protected rivers and watercourses such as the Balardong (Avon) and Dargal Yirra-gan (Swan).

Dutch navigator Willem de Vlamingh named the Swan River on 5 January 1697. The Avon River, which has its main source at Wickepin, becomes the Swan when it reaches Wooroloo Brook in Walyunga National Park, 30 kilometres north-east of Perth. It then flows through the Darling Range to the coastal plain and discharges to the Indian Ocean near Fremantle. The Canning River is one of the major tributaries of the Swan on the coastal plain. The lower reaches of the Swan–Canning River system form a shallow estuary that occupies an area of 55 square kilometres and receives water from a catchment of approximately 125,000 square kilometres.

As the population of the Swan River colony increased, housing and industry were established along the banks and the river was intensively used for waste disposal and for recreation, transport and food. The early settlers built 'flats' (flat barges) and used poles to pull themselves through the shallows as they transported food and supplies. Canals were cut through Burswood in 1831 and 1834 to assist navigation beyond Point Fraser, where waters were shallow and muddy. Jetties were built and the Causeway bridge was opened in 1843. The first record of commercial river transport was the cutter *Fanny* that began to transport goods and passengers to Fremantle and later Guildford in 1833. River sports such as sailing and rowing began in the early 1840s. The river's fringing vegetation was replaced with domestic and industrial fill to deal first with the miasma from rotting vegetation, then to 'improve' the foreshore for sport, recreation and roads and also to deal with the mosquito problem.

A warm climate and open and shallow estuarine conditions mean that the Swan and Canning River system is prone to algal blooms,

sometimes toxic. Nutrients, particularly phosphorus and nitrogen, are carried into the river from urban and agricultural catchments through surface and subsurface drainage. The nutrients from detergents, fertilisers, septic tanks, leachates from waste-disposal sites, pesticides, animal wastes and road run-off increase the frequency and extent of algal blooms. The focus of much early public opposition was the filter beds, constructed on Burswood Island in 1912 to filter sewerage waste from septic tanks at Claisebrook. The filter beds were widely blamed for the polluted and weed-infested state of the river for many years. Local governments had to deal with complaints of smell as well as the huge volumes of weed on river frontages. The river was dredged extensively for shell and in an effort to beautify and deepen it.

Growing public concern about point sources of pollution in the river led to the establishment of the Swan River Conservation Committee in 1948. This initiative was effective in ensuring that suitable legislation was introduced to protect the river. The *Swan River Conservation Act* was passed in 1958 and the Swan River Conservation Board established. In 1965, in the face of what appeared to be a further threat to the Swan with the proposed reclamation for the Narrows Interchange and car parks, the campaign

The 1926 Swan River flood. Transporting passengers to the ferry in Union Jack Square near the Barrack Street jetty. Courtesy West Australian *(HIST5946)*

to protect Kings Park led by the Citizens' Committee for the Preservation of Kings Park, established in 1954, was widened to include the river. Its name was changed to the Society for the Preservation of Kings Park and the Swan River. The campaign was unsuccessful but public interest remained keen, and in 1977 the Swan River Management Authority was formed. In 1988 the *Swan River Trust Act* established the Swan River Trust, further strengthening planning controls and management functions.

In 1998 the *Environmental Protection (Swan and Canning Rivers) Policy* was gazetted, providing a legal basis for the restoration, preservation and protection of the rivers. In the following year the Swan–Canning Cleanup Program Action Plan was launched. This plan and its associated implementation plans continues to provide a range of initiatives to reduce nutrient inputs, improve planning and land use, reduce algal blooms and monitor river health and report progress. *Riverplan* was released in 2004 to improve and coordinate management of the many projects that impact on the Swan and Canning rivers. New legislation is planned to establish the Swan Canning Riverpark to allow the river to be managed as a whole system, rather than a series of separate areas.

The Swan River today defines the city of Perth. Its heritage value, for both past and future generations of Western Australians, was recognised in 2004 when Premier Dr Geoff Gallop declared it the state's first heritage icon. **Sue Graham-Taylor**

See also: Avon Descent; Dams and reservoirs; Ferries; Fishing, recreational; Foundation and early settlement; Goonininup; Pollution; Rivers; Rowing; Swimming baths; Vlamingh's journey; Waakarl; Water management; Yachting

Further reading: R. Atkins, *Action for the future: the Swan and Canning Rivers Cleanup Program* (1995); Government of Western Australia, *Riverplan: an environmental*

management framework for the Swan and Canning Rivers: comprehensive management plan for the Environmental Protection (Swan and Canning Rivers) Policy 1998 (2004); Swan–Canning Cleanup Program, Swan River Trust and Water and Rivers Commission, *Swan–Canning Cleanup Program action plan: an action plan to clean up the Swan–Canning rivers and estuary* (1999)

Rivers of the Kimberley Of the Kimberley rivers it may be said that there is a fluvial feast or famine. The Kimberley climate is characterised by two seasons, the 'wet' and the 'dry'. With the onset of the 'wet', roughly November to April each year, dry watercourses can become raging torrents which together account for some 75 per cent of the state's total divertible water resources. Of the twenty longest rivers in WA, only five are in the Kimberley. However, the region's rivers carry the largest volume of water. The longest river in the Kimberley, the Fitzroy, is the fifth longest river in Western Australia.

Kimberley rivers provide habitat for a variety of fish, crustaceans, aquatic reptiles and invertebrates. The eighteen species of freshwater fish believed to be endemic to the region include the Barnett River gudgeon (*Hypseleotris kimberleyensis*) and Greenway's grunter (*Hannia greenwayi*), both restricted to the Upper Fitzroy. There are also two species of crocodile, the estuarine or saltwater crocodile (*Crocodylus porosus*) and Johnstone's crocodile (*Crocodylus johnstoni*), a freshwater crocodile.

The Kimberley has 109 streams termed 'river'. These waterways have been food sources and trade routes as well as central to the customs, folklore and spiritual beliefs of Kimberley Aboriginal peoples over hundreds of generations. Aborigines applied names to sections of river only and the application of the name for the entire length of the river was a practice introduced by European explorers. If the size, length, flow or permanence of a stream were considered, some rivers should be termed 'creek' and some creeks should be known as 'rivers'. Many explorers interchanged the terms. Those responsible for names of places and features in WA have, on occasion, changed the descriptive term for some streams—and sometimes changed them back again.

More so than in any other area of the state, the climate (particularly the 'wet') affected European exploration. The discovery of rivers and other physical features was a natural consequence of the initial exploration of the region. This occurred in five broad phases: water and land-borne exploration of the coastline in 1819–20 and 1838; land and water-based exploration around Camden Harbour 1864–65; Alexander Forrest's major 1879 expedition, which opened up the Kimberley, and the exploration that resulted over the next ten years including searches for pastoral land, the Kimberley Survey Expeditions and gold prospecting; Frank Hann's penetration of the King Leopold Range in 1898 that was followed by Fred Brockman's 1901 expedition; and, lastly, later exploration, mainly as a result of government activities.

Many Kimberley rivers have been subjected to both natural and human pressures. Along with floods and fire, pastoralism, tourism, mining and irrigated agriculture have brought a range of problems that include biodiversity loss, altered flow regimes, soil erosion and resultant siltation, declining water quality, contamination, weeds and feral animals. In the early twenty-first century a broad range of river restoration and catchment management projects was under way, including measures such as fencing to prevent livestock access, destocking and revegetation.

Some Kimberley rivers have, perhaps because of their isolation, been largely protected from human impact and remain mostly unaltered. In 1993 the Australian Heritage Commission initiated a 'wild rivers' program that included the development of a database and a Code of Management to ensure that

such rivers receive the highest levels of protection. The Kimberley region has been identified as having the greatest number of 'wild rivers' in WA. The Environmental Protection Authority has proposed a wild rivers policy for WA to ensure that these rivers are monitored, protected and managed on an ongoing basis for future generations. **Kim Epton and Sue Graham-Taylor**

See also: Environment; Erosion; Exploration, land; Feral animals; Kimberley; Ord River scheme; Pastoralism; Rivers; Salinity; Water management

Further reading: K. Epton, *Rivers of the Kimberley: their discovery and naming* (2000)

Rivers of the Pilbara, Gascoyne, Murchison lie within the Indian Ocean drainage division. Many rivers do not reach the ocean but dissipate in basin sediments, tidal flats or coastal lagoons; for example, the Minilya and Lyndon rivers flow to Lake MacLeod near Carnarvon. Spectacular river gorges occur in the Hamersley (Fortescue and Robe) and Chichester Ranges (Harding) and Murchison area. The state's longest and second longest rivers, the Gascoyne and Murchison, both approximately 800 kilometres long with catchments of 73,000 and 91,000 square kilometres, discharge 680 and 150 gigalitres in volume respectively. The De Grey is the third largest river in the state in terms of volume, about 1,000 gigalitres.

There are no pristine rivers in the Indian Ocean division and only the upper reaches of the Yule and Robe and tributary of the Sherlock are in relatively natural condition. Parts of other systems flowing through gorges or national parks are in good condition.

The climate is hot, semi-arid to arid, but subtropical in the north where most rain follows tropical cyclones in summer. Stream flow is erratic. In the south the climate is Mediterranean and rainfall generally occurs in winter. Catchments in the middle area

experience long periods of drought, being too far south to receive summer cyclonic rains and too far north for winter rains. Groundwater flows are also important to watercourses in the region.

In this arid landscape, rivers and other surface waters have been a focus for wildlife and human habitation. Aboriginal peoples gathered around waterholes and rivers, which are of ongoing cultural significance. Aboriginal patchwork burning to facilitate hunting and encourage new plant growth modified the vegetation. Fires today may be less frequent but are often of greater intensity. European settlement and pastoralism following the discoveries of Francis Gregory in 1861, and the establishment of the first town, Roebourne, in 1866, brought new animals that grazed, trampled and fouled areas around surface water. Tapping of underground water by bores and wells allowed higher stock densities and provided more reliable water sources for native animals (kangaroos) that increased in numbers. Grazing, which reached a peak in the mid 1970s, exposed and compacted the soil, leading to sheet and gully erosion and the infilling of watercourses. Recent economic changes have led to destocking and reduced grazing, allowing landscape recovery and stock improvements. Feral animals introduced as stock and for transport, along with incidental introductions (rabbits, foxes and cats), are widespread and abundant around watercourses where the impact on the native flora and fauna is most obvious.

The mining and petroleum industries currently dominate the area's economy. Iron ore development commenced in the late 1960s with major towns constructed by the 1970s (Dampier, Karratha, Tom Price, Paraburdoo, South Hedland, Newman, Wickham, Pannawonica, and the now closed Goldsworthy and Shay Gap). Current and potential effects to the rivers include changes to watertables through use of groundwater for domestic and industrial use, dewatering of mines and

disposal of wastewater, changing ephemeral streams to permanent flows. The population increase associated with industry and tourism has also increased road building and access points to watercourses.

Few rivers have been dammed as flows are erratic, supplies from extensive aquifers are more reliable and development of ground-water supplies has often been less costly. Groundwater is, however, often saline, and the effect of bringing this to the surface can impact the overlying vegetation. Horticulture along the lower Gascoyne at Carnarvon has been important since the 1930s for bananas and for large-scale vegetable production since the 1950s, with water extracted predominantly from alluvial sediments along the river. The Harding River was dammed in 1985 to supply water for Karratha and Port Hedland and Ophthalmia Dam was built on the Fortescue to supply water to Newman in 1981. **Anne Brearley**

See also: Aboriginal firing; Cyclones; Dams and reservoirs; Feral animals; Gascoyne; Horticulture; Murchison; Pilbara; Rivers
Further reading: Water and Rivers Commission, *The state of the northern rivers: a report designed to inform the community of the state of Western Australia's rivers in the Indian Ocean, Timor Sea and western plateau drainage divisions* (1997); Water and Rivers Commission, *Water WA: A state of water resources report for Western Australia*, prepared by Hydrology & Water Resources Branch Resource Science (2002)

Rivers of the South-West The upper catchments of the largest rivers of the South-West, such as the Blackwood, the Swan-Avon and Moore, lie hundreds of kilometres inland where salt lakes mark ancient river systems. West of the Meckering Line and Darling Fault and along the south coast, the river courses are more defined. On the coastal plain, the rivers and estuaries flow through lines of sand dunes formed as the sea retreated after the last high sea level in the Pleistocene.

Estuaries in south-western Australia range from permanently open with a strong marine influence, through stages of seasonally open, to permanently closed coastal lakes. They contain fresh river water in winter, and become saline in spring/summer as river flow decreases, allowing the intrusion of seawater with the tides. Estuaries that open infrequently become hyper-saline and may dry out in summer. The seasonal change from fresh to salt influences the aquatic flora and fauna. Many estuaries are very productive, supporting commercial and recreational fisheries. The shallow sandbanks are also rich feeding grounds for waterbirds including waders that breed in the northern hemisphere. Debate on manually opening estuaries to reduce flooding and allow fish to enter dominates discussions of estuarine management.

The Swan-Avon, approximately 280 kilometres (km) in length, has the largest catchment area, 126,000 square kilometres, with a mean annual flow of 360 gigalitres. The Blackwood, 330 km long, draining 21,400 square kilometres, delivers 925 gigalitres and is the fourth largest river in the state in terms of mean annual flow.

The Serpentine (90 km), Murray (190 km, 260 gigalitres), and the Harvey (60 km), with a combined catchment of 11,000 square kilometres, bring water to the Peel–Harvey. The Leschenault Estuary receives water from the Collie (110 km), Preston (70 km), Brunswick and Capel Rivers from a 5,200-square-kilometre catchment.

On the south coast, the Frankland, 400 km long with a 5,600-square-kilometre-catchment in an area of high rainfall, delivers a flow of 200 gigalitres (eighth largest volume in the state) to the Nornalup Inlet that also receives water from the Deep (120 km) and the Walpole through an inlet of that name. The Shannon (50 km) flows through forest country to Broke Inlet, the only pristine estuary in the South-West. East of Albany, the Pallinup

(150 km) that ends in the Beaufort Inlet, and the Gairdner (130 km), which flows to the Gordon Inlet, are the longest rivers in the area but dry out in periods of drought.

The South-West is the most highly settled part of the state and early development depended greatly on access to water. With the exception of the Swan River, few of the rivers are navigable for any length, and although many towns are located near river or estuary mouths, or at river crossings, settlement usually followed access to better soils. Aboriginal people gathered around the rivers and estuaries, particularly over summer when wildlife was abundant as surface water dried up and fish migrated into the estuaries. Fish traps of brushwood (Barragup on the Serpentine and others on the Canning) and stone weirs (Oyster Harbour) were in use on southern rivers at the time of European settlement. European settlement was established at Albany in 1827 on the shores of Princess Royal Harbour and Oyster Harbour (estuary of the Kalgan and King rivers). The area around the Swan was first settled in 1829 and the river was a major transport route between the port at Fremantle, Perth and Guildford. Larger towns (Williams, Kojonup) were established near river crossings on major roadways between Perth and Albany. As the pressure for land increased, settlements were established at Augusta on the Hardy Inlet (1830), on the Preston River at Leschenault Inlet (1837), Australind (1841) and Vasse-Wonnerup near Busselton (1835), and at York on the Avon (1831). North of the Swan, the rich alluvial soils around the Chapman (80 km) at Geraldton, the Greenough (250 km) and the Irwin (130 km) rivers were settled in the 1840s, with Moore River (150 km) in the 1850s and 1860s and Gingin established in 1871. On the south coast, the area around the Denmark River (Wilson Inlet) was also settled.

Clearing for agriculture has removed about 80 per cent of native vegetation. Along the west coast, vegetation along the lower river reaches and estuarine areas is highly modified. On the south coast, the Deep and Shannon rivers flowing to Broke Inlet and major tributaries of the Warren and Donnelly rivers, plus the Mitchell tributary of the Hay, are undisturbed. Further east, a number of small rivers in the Fitzgerald National Park lie in largely uncleared landscape.

In the drier inland areas, grazing and stock access to watercourses has led to erosion. In areas with higher, more reliable rainfall, clearing for agriculture and timber production has led to higher watertables, waterlogging, mobilisation of salt-increased runoff and erosion. Increased salt in freshwater pools was first noted in 1924 when supplies for steam trains deteriorated. Removal of vegetation along river courses has resulted in loss of habitat for native animals, the trapping of silt and pollutants and increased bank erosion. Throughout the South-West, many rivers have been modified to reduce flooding. The Avon and Collie have been 'trained', straightened and deepened (1960s). The Harvey, Preston (1969–70), Leschenault (The Cut, opened 1951), Vasse and smaller streams around Geographe Bay have been diverted. Estuarine areas of the Swan (Perth Water, initially 1892 but continuing to the present day), Peel–Harvey (Mandurah Channel), and Blackwood have been deepened (1956, 1973 and 1997). Large areas of the Swan have also been 'reclaimed' with dredge spoil (1950–60s). The bars of many estuaries have been removed (Swan 1849, 1896) or are opened (Wilson Inlet from at least 1955 onwards, and others along the south coast) when water levels are high.

Many rivers and streams have also been dammed for water supplies, with the result that downstream flows are reduced. In some cases, however, vegetation has been protected to safeguard water quality. Mundaring Weir (1902–03 for the Goldfields Water Supply Scheme) also supplied agricultural communities en route to Kalgoorlie. The Comprehensive Water Supply Scheme

was initiated in 1961–62 to supply other Wheatbelt communities, reducing the need for surface water or shallow saline wells. Growth of metropolitan areas resulted in the building of other dams on streams of forested catchments in the Darling Range: Logue Brook (1963); Drake's Brook (1966); Canning (1940); Serpentine (1961); Dandalup (South, 1973, and North, 1994); and Denmark (1961). Development of agriculture around Harvey and Waroona also resulted in the building of the Harvey Weir (1916) and the Wellington Dam on the Collie River (1960).

Successful agriculture on the old nutrient-deficient soils is dependent on fertilisers (superphosphate) or the growth of nitrogen-fixing legumes. Fertilisers from agricultural and urban areas (diffuse sources), along with nutrients and other pollutants from industry and sewerage works (point sources), have gradually moved into the groundwater and through to rivers, estuaries and lakes, where algal growths proliferate. The first complaints of algae growing around drains in Perth appeared in newspapers in the 1870s, with other reports downstream at Claremont and upstream after the Burswood filter ponds were opened in 1912. Some aquatic animals depend on algae, but some blooms produce toxins, and decaying algae release foul-smelling gases (Peel–Harvey, late 1950s to 1970s). Low oxygen concentrations associated with decaying algae kill many aquatic organisms such as fish, and facilitate the release of sediment nutrients that fuel further algal growth.

The most notable algal growths due to nutrient pollution have been in the Peel–Harvey, Swan–Canning and Albany harbours and Wilson Inlet. Scientific studies at the Peel–Harvey led to construction of the Dawesville Channel (1994) to allow the outward flow of nutrients and the inward flow of marine water creating less favourable conditions for algae. Nutrients, however, still flow from the catchments and others in the river sediments are released when the salty water bottom becomes deoxygenated. Tides have also increased, flooding swampy areas and favouring mosquito populations. The decline in algae, and clearer waters, have increased the area's popularity, and housing and canal development on the low-lying land have brought other management issues. **Anne Brearley**

See also: Aboriginal land and people, South-West; Dams and reservoirs; Dawesville Cut; Erosion: Goldfields water supply; Hills water supply; Rivers; Rivers, Avon, Swan, Canning; South-West; Water management

Further reading: A. Brearley, *Ernest Hodgkin's Swanland: estuaries and coastal lagoons of South-western Australia* (2005); E. P. Hodgkin and P. Hesp, 'Estuaries to salt lakes: Holocene transformation of the estuarine eco-systems of south-western Australia', *Marine and Freshwater Research*, 49, 3 (1998); L. J. Pen, *Managing our rivers: a guide to the nature and management of the streams of south-west Western Australia* (1999); Western Australian Water Resources Council, *The State of the rivers of the South West* (1992)

Rivers of the Western Plateau The Western Plateau is a huge drainage division of 2.1 million square kilometres covering a third of Australia. Two-thirds of the division are in Western Australia, but it also extends over the border into the Northern Territory and South Australia. Within WA it covers half the total land area, but is located on the eastern side of the state in low-rainfall country, away from the majority of the population. Its geology is ancient, and was probably formed 20–50 million years ago. The original 'rivers' of the division were formed as part of a very wet Gondwanaland. Since then the climate has dried and erosion and weathering have flattened the landscape. What is left are 'rivers' that are paleo-drainage lines: effectively, chains of lakes in the floors of broad valleys joined by short connecting channels. Rainfall is episodic, driven by moist tropical troughs

or decaying tropical summer cyclones. When it occurs, flow occurs in small tributaries emanating from hills surrounding the valley-floor lakes, but it is rarely enough to make them overflow. The average rainfall is mostly less than 200 millimetres, but deluges do occur. Widespread flooding can take place when decaying tropical cyclones cause in excess of 200 millimetres to fall over a broad area. At these times the valley-floor lakes will fill and overflow, causing the paleo-drainage lines to become true rivers.

There is limited population and infrastructure in the Western Plateau. Significant towns are mostly mining communities including Kalgoorlie, Leinster and Norseman, but also towns such as Eucla, Wiluna, Meekatharra and Giles, the communities of Billiluna, Jigalong, Kirricarru, and many other small Aboriginal communities. There are few roads.

The two well-known 'rivers' of the division are Lake Raeside–Ponton Creek, which runs from west to east north of Kalgoorlie, eventually terminating in a smallish lake near Zanthus, and Sturt Creek, which originates in the Northern Territory and flows south-west to terminate in Lake Gregory. However, most are not named, probably because they flow so rarely but also because the area is so remote.

Many significant lakes are named, including Disappointment, Mackay, Barlee and Lefroy, and are usually part of extremely long paleo-drainage lines. The lakes are generally dry, however, after significant rainfall they teem with life and support large waterbird populations, until they dry out again. When full they tend to be fresh or brackish, concentrating to hypersaline as they dry out. **Peter Muirden**

See also: Geological history; Rivers; Salinity
Further reading: Water and Rivers Commission, *The state of the northern rivers: a report designed to inform the community of the state of Western Australia's rivers in the Indian Ocean, Timor Sea and western plateau drainage divisions* (1997)

Roads are prepared routes across the landscape that facilitate the passage of people and materials. What they are used for dictates how big and sophisticated they are.

Before white settlement the original inhabitants used a complex network of walking paths to traverse the landscape so they never transported more than they could carry. White settlers brought beasts of burden and animal-drawn vehicles that needed firmer and wider tracks, so Western Australia's first roads were formed to accommodate them. The need for roads led to the enactment in 1871 of legislation establishing Municipalities and Road Boards throughout the colony and gave them the ability to levy rates for road works. In general, road transport was prohibitively expensive in comparison to water and railway transport, so it was not a major feature of the state's development until after the First World War. There were, however, several significant developments during this early period, including a wagon track linking Perth and Albany, and construction of a crossing at the Causeway, completed in 1843.

Motor transport development provided the first major impetus for road development. The first motor car arrived in WA in 1894, but significant change began to occur after the First World War, spurred on by the large numbers of returned servicemen with motoring experience, the increasing motor-vehicle population and Commonwealth grants for road development. As a result, the Main Roads Board was created in 1926 but was abolished in 1930 when roads were put under the control of a Commissioner of Main Roads. His organisation began developing a statewide road network in conjunction with local governments, who were still responsible for local roads.

Road development was inhibited in the 1930s and 1940s by the Depression and war, but, from the 1950s, Main Roads oversaw massive and extensive developments across the state and roads supplanted railways as the state's primary transport mode, except

for the bulk haulage of materials such as minerals and grain. Developments occurred first in the South-West, where basic sealed roads were extended as far as funds would allow as quickly as possible. In the 1960s focus shifted to the North-West, with special emphasis on road development in the Kimberley for cattle transport. By the end of the 1980s there was a sealed highway around the coastal perimeter of WA from the Northern Territory to the South Australian border, with many major roads providing vital links in the settled areas.

In Perth, Main Roads developed freeways that reshaped the urban geography, starting with the Kwinana Freeway and Narrows Bridge in the 1950s. The Stephenson–Hepburn Plan of 1955 and *Metropolitan Region Scheme Act* of 1963 placed roads at the centre of urban planning, and the extension of freeways reshaped the city from its previous alignment with the river and railway lines to a north–south expansion dictated by the freeways.

Serious doubts about the impact of motor transport and roads on the environment and urban development began to emerge towards the end of the twentieth century, leading to government placing a greater emphasis on a more balanced use of transport modes, including railways, at the beginning of the new century. However, roads remained a major part of Western Australia's transport system. **Leigh Edmonds**

See also: Buses; Infrastructure and public works; Motor vehicles; Transport
Further reading: L. Edmonds, *The vital link: a history of Main Roads Western Australia 1926–1996* (1997)

Rock music The Western Australian rock and pop music scene since the 1960s has been a microcosm of national and international trends in the music business, fed by exposure to overseas and eastern-states artists through records, radio and television, and live tours. Original local music has largely been shaped by isolation and distance. Talented local performers have generally found it impossible to achieve Australian success from the west. The usual pattern has been to gig around Perth, then go east (to Sydney or Melbourne) and start the process again, with the aim of securing a recording contract.

Johnny Young was an early exception, managing to score a national No. 1 pop hit from Perth on the local Clarion label in 1966. A slightly rougher pop style was purveyed by the Valentines, memorable for having Bon Scott as a singer and for being the first major Australian band to be busted for marijuana possession in 1969. Scott went on to become lead singer for Australia's internationally successful rock group AC/DC, before his premature death in 1980. A series of blues- and jazz-influenced pub bands like The Bakery, The Elks, Fatty Lumpkin and Sid Rumpo recorded with some success in the 1970s. Blues rock legend Matt Taylor moved to WA in 1975 and continued to record and tour with a series of bands.

Dave Warner emerged from the pub/punk scene in the late 1970s, with vignettes of teenage suburban life and a somewhat self-conscious ocker focus on beer, sport and sex. The Hoodoo Gurus, formed in 1981, combined elements of garage pop, psychedelia and punk into a successful mix. They were led by Dave Faulkner, who had first attracted attention in the Victims, one of Perth's first punk bands. He had also been in Midget and the Farrellys; their blend of retro pop and garage was partly inspired by the Dugites, who achieved some national recognition in the late 1970s and early 1980s. The punk scene also produced Kim Salmon, who went east with cult punk band The Scientists.

The Eurogliders had considerable success in the 1980s with a sophisticated pop sound. They were led by Grace Knight and Bernie Lynch, who had learned his craft in Perth with bands like Rip Torn and the Stockings.

The mid 1980s also saw the retro power-pop of The Stems, drawing on the music and visual styles of the 1960s. After a national hit with 'At First Sight' in 1987, they split up on the verge of bigger things.

Johnny Diesel (American-born Mark Lizotte) started out in Perth in the 1980s before achieving national No. 1 albums, firstly with the Injectors and then as a solo artist in the 1990s, playing guitar-driven Southern rock. Harder to categorise were The Triffids, led by David McComb, who produced a series of laid-back and evocative albums between 1983 and 1989, which were critically acclaimed but had limited popular appeal.

In the 1990s the willingness of ABC radio's Triple J to play original music from across the nation, together with the National Campus Bands Competition, made it possible for some young Western Australian bands to achieve national exposure without necessarily moving east. Acts like Ammonia, Eskimo Joe and Jebediah all had some national success.

The increasingly mixed ethnic and national origins of Western Australians were reflected in the variety of world and roots music being made in the state. A small but vibrant Indigenous rock music scene developed in the Kimberley region during the 1980s and made a significant impact with Jimmy Chi's musical *Bran Nue Dae* in 1990. Its backing band included members of the Pigram Brothers, who had considerable success in their own right after 1996.

Live local rock music in Perth began in the dance halls of the 1960s, such as the old Embassy Ballroom. These gave way to pub rock in the 1970s, with venues ranging from smaller colonial pubs, such as The Governor, to huge, characterless beer barns like the White Sands. 'Sunday sessions', in particular, became hugely popular. Pub rock was hit hard by the introduction of random breath-testing in 1988, but made a comeback in the later 1990s when a considerable number of hotels and bars again hosted live local music. By the early twenty-first century, live venues were

Poster advertising the Stems tour after they reunited in 2003. Courtesy Toby Burrows

again closing down or being converted to DJ-driven dance music, often in response to complaints from new inner-city apartment residents.

Outside Perth, numerous larger-scale events were held on sporting ovals and semi-rural properties, often over the Easter weekend. The Parkerville Amphitheatre was the location for several Woodstock-inspired events in the early 1970s. Other regional events have included the annual Bridgetown Blues Festival, the Fairbridge Folk Festival, and the Bindoon Rock Festival in the 1980s and 1990s. The most unusual venue was probably St George's Anglican Cathedral in Perth, site of a series of 'rock masses' in 1970 and 1971, where the Dean of Perth, John Hazlewood, presided to the accompaniment of the heavy rock sounds of The Bakery. This drew criticism at the time, but thirty years later live rock music had become an essential ingredient of many Pentecostal church services, and 'Christian punk' bands were not uncommon.

By the early twenty-first century, Perth was home to a very competitive and busy rock scene. Local recordings proliferated, in every conceivable style, as the cost of recording and distribution dropped significantly. Several bands were managing to achieve national and international recognition with a mixture of frequent touring and local recordings. Most promising among them were roots- and folk-derived acts such as John Butler and The Waifs, as well as the melodic pop of The Sleepy Jackson. **Toby Burrows**

See also: Aboriginal music; Drinking; Music festivals; Night-life; Popular music; Youth culture
Further reading: T. Brabazon (ed.), *Liverpool of the south seas: Perth and its popular music* (2005)

Rottnest Island lies off the Western Australian coast, some 18 kilometres west of Perth, and is oriented in an east–west direction. It is 11 kilometres long and 4.5 kilometres at its widest point. Once part of the mainland, it became an island some seven thousand years ago. It was known to Aboriginal people as Wadjemup, or 'land across the sea'. In December 1696 Willem de Vlamingh, the Dutch explorer, gave Rottnest (rats' nest) its name after the abundance of large 'rats' (quokkas) that inhabited the island. After the proclamation of the Swan River colony in 1829, land grants were made on the island and settlers farmed the land and gathered salt.

Rottnest Island was selected as a site for the detention of Aboriginal offenders, and in 1838 the first Aboriginal prisoners were sent there. In 1839 all land rights were resumed and from that date no one has owned land on Rottnest. Henry Vincent was sent to Rottnest as prison superintendent (1839–49 and 1856–66) and he set about building a penal settlement that in later years would be noted for its harshness and brutality. Vincent and prisoners built an octagonal prison, a boys'

reformatory, a chapel, lighthouse, salt works, mill, military barracks and stables, accommodation for pilots and their whaleboat, and a sea wall, all of which give Rottnest its unique character. These buildings are among the oldest in the state.

The recreational use of Rottnest began in 1848, when successive governors of the colony, with their select group of friends, used Rottnest as a summer holiday resort. In 1864 a summer residence was built for the governor. It was eventually converted into a hotel—commonly known as the Quokka Arms—in 1953.

The function of the island as an Aboriginal prison declined. Some 3,700 men and youths had been incarcerated in the gaol by 1904 when the prison was formally closed. Prisoners, however, continued provide a workforce for the island. In 1914 the island became a military establishment and an internment camp for some 1,700 Germans, Austro-Hungarians, Turks and Bulgarian prisoners of war and internees. From the 1930s military barracks, gun mountings, tunnels and observation posts were established on the island on Commonwealth Reserve land. The island again became a military establishment in 1939 as part of the Western Defence Strategy. During the last years of the Second World War, 200 Italian prisoners were interned on the island.

Rottnest Island had been declared an A-class reserve in 1917 after much public pressure, and a Board of Management was set up to administer the island. In the 1920s hundreds of holidaymakers regularly caught the ferry to Rottnest. The reformatory was turned into a hostel, a general store and tea rooms were built, and camping sites were set up. After the end of the Second World War the island was again opened to the general public, and since then its recreational use has been uninterrupted. Rottnest has also had an important scientific research role, and in 1953 a research station was established. In 1987 the *Rottnest Island Authority Act* was

proclaimed. Under the provisions of this Act, the existing Rottnest Island Board was dissolved and a new Authority with a new Board of Management set up. **Pat Barblett**

See also: Convicts; Governors; Internment; Islands; Military camps; Rottnest Island Native Prison; Second World War; Shipwrecks; Vlamingh's journey

Further reading: R. J. Ferguson, *Rottnest Island: a national estate survey of its history, architecture and environment* (1977); N. Green and S. Moon, *Far from home, Aboriginal prisoners of Rottnest Island 1838–1931* (1997); P. Joske, C. Jeffery and L. Hoffman, *Rottnest Island: a documentary history* (1995); T. Wiltshire, *Gone to Rottnest* (2004)

Rottnest Island Native Prison Rottnest Island was opened as an Aboriginal prison in 1838 and formally designated as such by Governor John Hutt in 1840. (The 1841 Act which made provisions for the prison specified that it was to be an Aboriginal prison but allowed for white prisoners to be sent if necessary, and for most of the prison's life white prisoners were sent in small numbers as tradesmen of various sorts.) The prison was closed between 1849 to 1855, when it was leased to a Mr Dempster as farmland, after which it reopened, then was officially closed in 1903. The following year Rottnest became an annexe of Fremantle Prison, and during the years 1904 to 1931 up to fifty low-risk Aboriginal and non-Aboriginal prisoners worked on the island. During the First World War, internees were also held on the island.

As many as 3,700 Aboriginal men from across Western Australia were incarcerated on Rottnest; some served a few weeks for being disorderly and others more than ten years for murder. During their incarceration they farmed the land, harvested salt, collected firewood, and quarried stone for roads and

for the older buildings at the Thompson Bay settlement. The quod, or prison building, was built by Henry Vincent with Aboriginal labour in 1864 to hold 106 Aboriginal prisoners and some warders, but by 1883 it was grossly overcrowded, with prisoners sleeping five to a cell, remaining that way until it was closed. The building was fitted out for tourist purposes in 1907 and today forms part of the Rottnest Island Lodge. Aboriginal people have proposed that it become a museum, but it is under lease until 2018.

An estimated 364 Aboriginal prisoners died on the island from influenza, whooping cough, measles, depression and old age. Five men were executed at the quod. All were buried in unmarked graves in an all-but-forgotten cemetery. Edward Watson and Jack O'Donohue, former island residents, remembered the Aboriginal cemetery among the cypress trees about 180 metres north by north-west of the quod. It was about 40 metres in diameter and enclosed by a cobblestone wall. Watson described prisoners buried in the 'traditional way', about one metre under the ground with their legs tucked up to the chest and their heads turned to the side looking toward the rising sun in the east. In June 1970 Rottnest Island workers unearthed skeletal remains that proved to be Aboriginal, and the relics were re-interred. Ground-probing radar investigation of this area has established the general location of the graves and work is continuing to identify the entire burial area.

In 1990 and 1994 hundreds of Aboriginal people held cultural meetings at Rottnest and proposed strategies for the future of the island, in particular the quod and cemetery. In compliance with their demands the popular tent land was relocated, several houses were removed, roads were closed and the cemetery area acknowledged. Today, much of the Aboriginal burial ground is fenced and a sign, painted in the colours of the Aboriginal flag, reads 'Rottnest Island Aboriginal Prisoner Cemetery'.

Since 2003 the Rottnest Island Board has worked with Indigenous people to erect adequate signs to interpret the Aboriginal burial grounds and other areas of Aboriginal significance. In this manner it hopes to enhance relationships with Aboriginal people and preserve the Aboriginal heritage of Rottnest Island and the seventeen sites listed under the *Aboriginal Heritage Act 1972–1980*. **Len Collard**

See also: Aboriginal prisoners; Cemeteries; Imprisonment; Internment; Rottnest Island
Further reading: N. Green and S. Moon, *Far from home: Aboriginal prisoners of Rottnest Island 1838–1931* (1997); E. J. Watson, *Rottnest: its tragedy and its glory* (1998)

Rowing is one of the state's oldest organised sports. In the early years of the colony the Swan River system was the focus of much commercial and recreational activity and challenges were soon issued for races between rival boats. Newspapers of the day reported races for whaleboats and for gigs—smaller, faster boats designed for racing. Competitive rowing began after Englishmen introduced the emerging sport to the colony.

The WA Rowing Club was formed in 1868, the Swan River Rowing Club in 1886 and the Fremantle Rowing Club in 1887. Delegates from the three clubs met in 1888 to establish the WA Rowing Association along the lines of similar bodies in other colonies. The first regatta conducted under the auspices of the new association was held in conjunction with the Perth Yacht Club in February 1889. The Amateur Rowing Association of WA (so-called from 1958) is now more than 120 years old.

Rowing quickly gained popularity in private boys' schools. The first schoolboys' 'Head of the River' race was held on Coronation Day, June 1899, on the Swan River over about half a mile (from the Bent Tree, a familiar landmark in those days, finishing in a direct line with Royal Perth Yacht Club), between Scotch College, CBC (Aquinas), the High School (Hale) and St Peter's College (Fremantle). The 106th regatta, held in March 2005, involved seven schools. Government schools have been involved in general rowing competition since the mid 1960s.

The 1920s and 1930s were a golden period for rowing worldwide, because of a general increase in involvement in sport as a social activity and as a diversion during the Depression years. In WA new clubs were formed: ANARC (Australian Natives' Association Rowing Club—registered name ANARC) in 1920; Bunbury RC in 1921; Collie River RC in 1927; UWABC (University of WA Boating Club) in 1929; and Maylands RC in 1933. WA won the highly coveted national race, the 'King's Cup', on four occasions in the 1920s, and the UWABC the 'Oxford and Cambridge Cup' three times.

There is a reference to a women's crew in Perth as early as 1893, and certainly other crews were active up to the Second World War; however, social attitudes generally discouraged women from participation in rowing until the mid 1960s. Women rowers were accepted in the Olympics in 1976 and in the mid 1970s formed their own association in WA before amalgamating with the Amateur Rowing Association of WA in 1980.

Rowing experienced a surge in popularity after the 1992 Olympics due to the publicity given to Australia's Oarsome Foursome, and the introduction of a private girls' college competition in Australia in the mid 1990s. Schoolgirl rowing is flourishing and, like the men, WA women are competing for Australia internationally with outstanding success. **Berry H. Durston**

See also: Yachting
Further reading: B. H. Durston, 'Rowing Traces Back to State's Early Days', *Sports Fan*, 1, 2 (1960); G. Negus (ed.), *West Australian Rowing Club (Inc.) and Wests Sculling Club (1963)* (1968); G. Negus (ed.), *West Australian Rowing Club Inc. 1968–1998* (1998)

Royal Agricultural Society The Royal Agricultural Society of Western Australia has tenuous links with the Western Australian Agricultural Society (WAAS), which was formed in 1831. Besides holding an annual show in Guildford, that body was also an active lobby group and a promoter of rural research. In 1846, however, when the focus of agricultural activity had moved from the Swan to the Avon Valley, the society collapsed. After 1850, with the colony's rural economy stimulated by the convict system's demands for food and building materials and by the availability of ex-convict labour, agricultural societies came into being in the Avon valley, the South-West and, before long, in Guildford once again, where the Swan District Agricultural Society (SDAS) was considered the reincarnation of the original WAAS. In 1876 the leading members of the SDAS also joined the new Perth-based Western Australian Agricultural Association (WAAA), which held its first four shows near the Causeway. Because the site proved inconvenient, the WAAA arranged for subsequent events to be held on the SDAS grounds at East Guildford. The WAAA and the SDAS amalgamated in 1883 to become the Agricultural Society of Western Australia, which was granted the Royal prefix in 1890 (RAS).

Following the opening up of the Eastern Goldfields in the 1890s, economic boom

Crowds in Sideshow Alley at the Royal Show, October 1956. Courtesy West Australian *(T1429)*

brought a rapid expansion of farming and the proliferation of agricultural societies. It also led to a contraction of the political and research roles of the RAS, which were taken over respectively by newly formed farmers' lobby groups and the Department of Agriculture. Meanwhile, the Royal Show rapidly outgrew its East Guildford site. The RAS therefore moved to Claremont, where the first show was held in 1905. The change of location ushered in a century of progress and development for the RAS, the showgrounds and the Royal Show. The RAS matured as one of Western Australia's senior rural organisations, as a source of information and advice, and as a clearing house for matters involving its regional counterparts. At the beginning of the twenty-first century it was also deeply involved in educating an increasingly urbanised population about agriculture and land care, and in promoting the state's interests in international trade, investment and cultural exchange. **W. S. Cooper**

See also: Agriculture; Dairying; Horticulture; Livestock; Log-chopping; Pastoralism; Wheat; Wine; Wool

Further reading: W. Cooper, G. Moore and M. White, *Adversity and achievement: A history of the Royal Agricultural Society of Western Australia* (2004)

Royal Automobile Club The Royal Automobile Club of WA (RAC) was founded by a small enthusiastic group of car owners under the name of the Automobile Club of Western Australia in 1905, fifteen years before NSW established the National Royal Motor Association, NRMA. The first official meeting was held on 28 January 1905, and the first official motor-car-run from Government House to Cottesloe on 1 July that year. The club was established for motorists who wanted to test the reliability of their cars but also to counteract the hostility of a community still largely dependent on horses for transport. In 1913

the club sought credibility by linking itself to the Automobile Association in Britain.

The RAC has played a number of significant roles over the years. In its early years the RAC was instrumental in producing the first road map of the South-West of WA and also lobbied government on a range of road safety issues such as adequate licensing. During the First World War the RAC raised funds to make an ambulance available for the armed forces at Gallipoli. The RAC has also taken on a role of consumer watchdog for motorists, lobbying state and federal governments on issues such as petrol prices (in 1918, 2001 and 2005); on taxes and levies; speed camera revenue; and abolishing the Kings Park entry toll in 1927. Other activities have included the formation of the Good Roads Association in WA in 1920; supplying road signs; raising questions about the Road Traffic Authority in 1975; and working with the WA Police on activities such as the 1991 'Look, Lock and Leave' campaign and 'Crime Stoppers' in 1995. Road safety initiatives have included initiating a 'Red Spots' campaign in 2003, and driver education for younger and school-age drivers. The RAC also sponsored RAC Rescue 1, Western Australia's emergency helicopter service, in 2004. Today the RAC is best known for its roadside assistance and insurance services.

Keryn Clark

See also: Motor vehicles; Transport
Further reading: www.rac.com.au

Royal Commissions are inquiries into matters of public interest or importance. Under the Western Australian *Royal Commissions Act* (1968), they are created by the governor in Executive Council (which actually means on the advice of the premier). An appointed royal commissioner, or commissioners, report on the specified terms of reference to the governor rather than the parliament. They are armed with powers that give them a greater capacity to compel people to cooperate than

do other forms of inquiry. To provide them with more authority, royal commissions are usually undertaken by serving or retired federal or state judges; but despite these judicial links and trappings they remain an arm of the executive. Often royal commissions focus upon areas where governments are or should be making decisions, but where those traditional methods are found wanting. Sometimes they are instruments to investigate improper conduct.

In WA since 1897, when a Royal Commission on The Preservation, Carriage and Storage of Perishable Food was appointed, there have been nearly two hundred such inquiries until 2004. However, in WA it should be noted that this tabulation includes an estimated twenty-five honorary royal commissions which began as select committees of parliament but had their status altered after respective parliaments were prorogued. For example, the influential Honorary Royal Commission Appointed to Inquire into and Report upon the Treatment of Alcohol and Drug Dependents in Western Australia, which led to the creation of a Drug and Alcohol Authority (later Office), commenced as a select committee in 1972.

Over the years the most controversial inquiry was the 1990 Royal Commission into the Commercial Activities of Government and Other Matters, widely known as the WA Inc. Royal Commission, appointed to report upon whether there was evidence of corruption, illegal conduct or improper conduct in a range of business matters. The royal commissioners were also to ascertain if changes in the law of the state or decision-making procedures were necessary or desirable in the public interest. In their final report, the state's system of democratic government was portrayed by the three commissioners (Geoffrey Kennedy, Chair, Peter Brinsden and Ronald Wilson) as dysfunctional, and a host of adverse references were directed at personnel in the Brian Burke and Peter Dowding Labor governments. Some forty specific recommendations for

governmental change were made, with the additional proviso that a Commission on Government (COG) be 'established by legislation without delay' to undertake public consultation and consider further reforms, but in the upshot most of the 263 recommendations by COG created only periodic public interest. Of greater moment was the 1991 Report of the Royal Commission into Aboriginal Deaths in Custody. Unusually, this 5,000-page report was the product of appointment by both the Commonwealth and Western Australian governments.

Perhaps the most politically divisive inquiry was the Royal Commission into the Use of Executive Power, otherwise known as the Easton Commission (sometimes the Marks or Lawrence Commission). This Commission was appointed in 1995, ostensibly to ascertain whether an earlier tabling of a petition in the Legislative Council by John Halden MLC, on behalf of public servant Brian Easton, was motivated by 'improper or inappropriate considerations'. However, it was widely interpreted as an attempt by Premier Richard Court to determine the personal involvement in the events by former premier Dr Carmen Lawrence. Apart from the role of a premier, the commission's deliberations had been given greater moment by the death of Penny Easton, the late estranged wife of Brian Easton, being linked to the tabling of the petition. In his report, Kenneth Marks strongly criticised both Lawrence and Halden for 'improper' conduct. However, as was the case with the WA Inc. Royal Commission, it was questioned whether individuals named during the commission's deliberations were provided the full protection implicit in the phrase 'due process' of the law. This frequently expressed concern was also often raised during the conduct of the 1995 Royal Commission into the Affairs of the Wanneroo City Council and the 2001 Royal Commission into whether there had been any corrupt or criminal conduct by Western Australian Police Officers. The last mentioned royal commission, as with

many previous commissions, was strongly criticised for its cost, which had escalated to some $30 million by the time it was tabled in 2004 by former Justice Geoffrey Kennedy. As has been the case with most royal commissions in WA, it is often difficult to determine whether the benefits of an investigation, with recommendations for reform and possibly revelations of impropriety or worse, outweigh the monetary costs and the legal consequences for individuals not necessarily accorded the full protection of 'due process'.

Harry C. J. Phillips

See also: Deaths in custody; Royal Commissions and Inquiries, Indigenous; Select Guide to Royal Commissions in Western Australia, 1897 to 2004 (appendix); Stolen generations; WA Inc.

Further reading: P. O'Brien and M. Webb (eds), *The Executive state: WA Inc. & the constitution* (1991); A. Peachment (ed.), *The Business of government, Western Australia 1983–1990* (1991); A. Peachment (ed.), *The years of scandal: commissions of inquiry in Western Australia, 1991–2004* (2006); H. Phillips, D. Black, B. Bott and T. Fischer, *Representing the people: parliamentary government in Western Australia* (1998); P. Weller (ed.), *Royal commissions and the making of public policy* (1994)

Royal Commissions and Inquiries, Indigenous Royal commissions and inquiries into Indigenous matters have usually been in response to one of two major concerns: inquiries to identify the weakness in Aboriginal policy and guide the drafting of new legislation or policy; and inquiries that address concerns of abuse and injustice.

In 1883 Governor Broome appointed John Forrest to head a Commission '*To inquire into the treatment of Aboriginal Native prisoners of the Crown … and certain other matters*'. The report emphasised the tragic impact of settlement on the Aboriginal population.

In another report, *Royal Commission on the condition of the Natives, 1905*, Walter Roth, the assistant Protector of Aborigines for Queensland, directed his recommendations towards increasing the authority of the Western Australian Chief Protector, then Henry Prinsep. The treatment of prisoners in the north was regarded as brutal, with youths being neck-chained with adults, and women taken into custody as witnesses. Such mass arrests officially ended after Roth's report, but continued unofficially for several years. Neck chains were still in use in the Kimberley in 1954.

The *Aborigines Act 1905* incorporated many of Roth's ideas and, while addressing the immediate concerns of injustice, such as the exploitation of children and women in the workforce, resulted in statewide discrimination that endured for more than fifty years.

In January 1927, Magistrate G. T. Wood was asked to inquire into allegations that a police party, while searching for Lumbia for the murder of Frederick Hay, shot a number of Aboriginal men and women in the Forrest River district of the East Kimberley and cremated the bodies. The event is sometimes referred to as the Forrest River massacre. Wood heard evidence from Indigenous and non-Indigenous witnesses. He also visited Dala, one of the sites of the alleged murders. His report, *Inquiry into alleged killing and burning of bodies of Aborigines in East Kimberley and into police methods when effecting arrests*, found that eleven men and women were murdered.

The broad terms of inquiry for Magistrate H. D. Moseley in 1935 are reflected in the title, *Report of the Royal Commissioner appointed to investigate, report and advise upon matters in relation to the condition and treatment of Aborigines*. He considered, among other matters, the administration of Indigenous affairs, native settlements, town camps, employment, disease and the trial procedures for Indigenous people. His investigations covered all parts of the state. Like Roth, he believed that a protection policy was in the best interests of Indigenous people and that the treatment by pastoralists and missionaries was satisfactory. Outside such controlled environments, he found the exploitation of women was still unacceptable and that the living conditions at the government Moore River native settlement and in the many camps across the state were deplorable. Moseley's concerns at the application of the law to traditional people led to the introduction of the native courts, but his recommendations for a decentralised administration had to wait another twelve years. Because he favoured a protection policy rather than reform, Moseley's recommendations, when written into the *Native Administration Act 1936*, placed even greater authority in the hands of the Chief Protector, now referred to as Commissioner.

By 1947 the protection policy was out of step with international agreements for Indigenous people, and the government decided upon a review by Magistrate F. E. A. Bateman. The assimilation of migrants and Indigenous people was the emerging policy, and this is evident in Bateman's report, *Survey of Native Affairs*. Education and training were important considerations, but Bateman, as with many of his generation, could not see beyond a future of trade and domestic employment for Indigenous people. He could not visualise Aboriginal people in the professions, as teachers, nurses, lawyers and doctors.

In 1972 Robert Jones was appointed Royal Commissioner to inquire into allegations of brutality and discrimination against Aboriginal prisoners. He endorsed continued integration of prisoners and recommended minor changes but found no evidence to confirm the allegations. In 1973 Judge Lyn Furnell investigated and reported on 'all matters affecting the well being of persons of Aboriginal descent in Western Australia'. His *Report of Royal Commission into Aboriginal Affairs* was criticised by Aboriginal people,

who objected to his dismissive attitude towards land rights.

The *Report of the Laverton Royal Commission (1975–76)* was the outcome of an inquiry by Messrs E. F. Johnston, QC, G. Clarkson and E. Bridge (later the Member of the Legislative Assembly for the Kimberley). This was the first inquiry to consider sensitive cultural issues and the first to include an Indigenous member. In December 1974 and January 1975, at Skull Creek near Laverton, there were several incidents between the police and Aboriginal men from the Warburton Ranges district who were carrying sacred boards to ceremonies. The inquiry found faults on both sides with the need for better travel planning by Aboriginal people, more Indigenous police aides and Justices of the Peace, and a need for police in-service training in cultural awareness. Two further inquiries were the Aboriginal land inquiry (1984) by Paul Seaman, and one headed by Sue Gordon (2002) to inquire into family violence and child abuse in Aboriginal communities. The first, which provided detailed information about traditional rights to land, was shelved by the government, and the second, which urged immediate action, was slow to be implemented. **Neville Green**

See also: Aboriginal administration; Aboriginal legislation; Courts of Native Affairs; Deaths in custody; Royal Commissions; Skull Creek Laverton incident

Further reading: P. Biskup, *Not slaves, not citizens* (1973); A. Haebich, *For their own good* (1988)

Royal Flying Doctor Service The Royal Flying Doctor Service (RFDS) Western Operations is a not-for-profit organisation that provides aero-medical evacuations across all of Western Australia, in addition to a range of visiting medical services to remote and rural areas. Lieutenant Clifford Peel, a Victorian medical student with an interest in aviation,

is credited to have first come up with the idea of a flying doctor, writing to the Rev. John Flynn, a Presbyterian minister, about his scheme in 1917. Flynn pursued the vision. While working with missionaries in the outback, he was concerned about the dangers of living in such isolation. He established the first aerial medical service in Queensland through the Presbyterian Church, and five years later, in 1933, Flynn and Dr Allan Vickers visited WA in the hope of forming a similar service.

The RFDS was the first comprehensive aerial medical organisation in the world. WA bases, organised in several sections, were established at Wyndham (1934–89), Port Hedland (1935–), Kalgoorlie (1937–), Meekatharra (1946–), Derby (1955–), Carnarvon (1955–96), Jandakot (1964–) and Geraldton (1977–89). In 1934, all Australian sections accepted a single constitution to become the Australian Aerial Medical Service (AAMS). It was always informally known as the Flying Doctor Service, however, a title that it eventually adopted in 1942. It was granted Royal Charter in 1955. While the RFDS receives some funding from the Commonwealth government, it also relies heavily on fundraising efforts to sustain its operations.

The success of the RFDS was vitally dependent on the radio network that was developed for the cause. Pedal radios were used for communication, initially using Morse code, although these were soon replaced with battery-powered sets. Women largely took on the role of radio operator on remote stations and a bush community soon developed over the air. This radio network enabled the formation of other services, such as the Flying Sisters, the Flying Dentists and the School of the Air.

The RFDS introduced a medical chest to outback stations in 1942. The RFDS body chart, drawn by Sister Lucy Garlick in Broome, in 1951, remains a vital tool in assisting with a patient's diagnosis via remote consultations.

The RFDS now operates from five bases in WA—Jandakot (where its administration is sited), Kalgoorlie, Meekatharra, Port Hedland and Derby. Each base is effectively staffed with five full-time pilots, three doctors and five nurses, and, using its fleet of eleven aircraft, provides a twenty-four-hour emergency response as part of a statewide system. Each year it undertakes approximately 20,000 emergency and routine medical consultations (by telephone and radio), assists approximately 36,000 patients, and evacuates over 5,200 patients with injury and illness by air from across the state. **Jane Leong**

See also: Communications; Dentistry; Medical practice; Nursing; Public health; Radio
Further reading: J. Bilton, *The Royal Flying Doctor Service of Australia: its origin, growth and development* (1961); L. Prideaux, *The history of the Flying Doctor Service in Western Australia* (1962)

Royal Perth Hospital has its origins in the Colonial Hospital opened in Perth on 14 July 1855. This first purpose-built public hospital replaced a series of temporary hospitals. Two storeys high and convict-built, it was administered by the colonial surgeon and the colonial government until it was transformed into the Perth Public Hospital by legislation of 1894. This initiated a system of honorary doctors and a government-nominated board of management. Although there was provision for fee-paying patients, the hospital was perceived as a place mainly for the poor. A professional approach to nursing was indicated with the appointment in 1890 of Mary Nicolay, who claimed a Nightingale training, and with the formal training of nurses within the hospital commencing in 1896, Annie Kirkman being the first graduate.

With the rapid influx of population drawn by the gold discoveries of the 1890s, infectious diseases such as smallpox proliferated. Two wards were built in the bush at West Subiaco in 1893 to cope with an outbreak of typhoid, and were used again during epidemics of bubonic plague (1900) and Spanish influenza (1919). The Isolation Block was placed under the Perth Public Hospital's administration in 1907. During the First World War, acute staff shortages were experienced. Renamed the Perth Hospital in 1921, the hospital was under-funded during the 1920s and 1930s, with the purchase of specialised equipment and the expansion of facilities usually belated responses to need rather than forward planning. In 1939 work began on the construction of a modern nine-storey building at the intersection of Wellington Street and Victoria Square, and although fit-up was delayed by the Second World War, the completed hospital was of a sufficient quality to win the name of Royal Perth Hospital in 1948. The next two decades under the administration of Joseph Griffith probably marked the hospital's heyday, with further growth culminating in the building of specialised nurses' quarters, Jewell House, in 1971.

In the late twentieth century, Royal Perth Hospital experienced competition within the public hospital system from Sir Charles Gairdner Hospital, originally intended for tuberculosis sufferers but soon upgraded to a general and teaching hospital. Royal Perth Hospital's site in the central business district could be seen as a disadvantage in the rapidly expanding suburban sprawl of the Perth metropolitan area. After long debate, the state government decided in 2005 to concentrate development on Sir Charles Gairdner Hospital, leaving Royal Perth Hospital to expect downgrading and possibly eventual closure. **Phyl Brown**

See also: Colonial health; Influenza epidemic; Nursing; Public health; Typhoid epidemics
Further reading: G. C. Bolton and P. Joske, *History of Royal Perth Hospital* (1982); P. J. Martyr, *West of Subiaco: a history of the Shenton Park campus, 1893–1993* (1998)

Royal Perth Rehabilitation Hospital at Shenton Park is located on the site of the Victoria Hospital for Infectious Diseases, which was established as little more than a tent outpost to house those suffering after the 1893 outbreak of smallpox. In 1938, after many changes and more epidemics, the hospital was renamed the Metropolitan Infectious Diseases Hospital. The 1948–56 poliomyelitis epidemic caused the hospital to refocus on aspects of rehabilitation and the aftercare of long-term patients. In December 1954 a paraplegic unit was opened. Thought to be the first of its kind in Australia, the unit combined physical rehabilitative care with vocational training. The Metropolitan Infectious Diseases Hospital was now a fully functioning rehabilitation hospital. The post-polio and paraplegic unit became known as the 'Shenton Park Annexe' from 1956, and the Annexe grew to include a Hemiplegic Unit (1959) and an Occupational Therapy School (1961), before the hospital was renamed the Royal Perth (Rehabilitation) Hospital in 1966. The hospital opened a Rheumatic Diseases Department, Quadriplegic Centre, School of Occupational Therapy and Physiotherapy, and developed and created the Independent Living Centre. George Bedbrook, FRCS, a key figure in the history of the hospital, director of the Paraplegic Unit and a founding member of the Shenton Park Annexe House Committee, oversaw this growth and only resigned his position as Head of Department of Paraplegia in 1972, although he continued to work at the Rehabilitation Hospital until his retirement in 1986. In 1978 Bedbrook was knighted in recognition of his work in quadriplegic and paraplegic rehabilitation and orthopedics. In 2006 the state government announced plans to close down the Royal Perth (Rehabilitation) Hospital and move rehabilitation operations to a purpose-built State Rehabilitation Centre at Osborne Park. **Lauren Rogers**

See also: Occupational therapy; Physiotherapy; Poliomyelitis epidemic; Public health; Royal Perth Hospital; Speech pathology

Further reading: G. C. Bolton and P. Joske, *History of Royal Perth Hospital* (1982); P. J. Martyr, *West of Subiaco: a history of the Shenton Park campus, 1893–1993* (1998)

Royal tours A four-day visit to Fremantle and Perth by Prince Alfred, Duke of Edinburgh, second son of Queen Victoria, was the first of more than thirty royal tours of Western Australia. He was twenty-five years old and had survived an assassination attempt in Sydney the year before. His keenly awaited arrival on 4 February 1869 was marred when horses drawing the royal carriage down St Georges Terrace bolted at the sound of shots fired in salute. A highlight among the round of dinners, a levee and a ball was a shooting trip on the river, when the prince shot a shag.

Thirty years later, on 20 July 1901, in the first of the great tours of Britain's overseas dominions, the Duke and Duchess of Cornwall and York (later George V and Queen Mary) arrived in King George Sound after attending the opening of the first federal parliament in Melbourne. They travelled by train to Perth, and there followed seven days crowded with receptions, a fireworks display, the laying of foundation stones for the South African War Memorial and the new wing of the Museum and Art Gallery, naming ceremonies in which Kings Park was named for Edward VII, and May Drive in honour of the Duchess (Princess Mary of Teck, also known as May), Fremantle's Victoria Quay for the late Queen, and the Girls' School for Princess May. After viewing a parade of 'gorgeously caparisoned' camels, the Duchess named one 'Joe' before donating him to the zoo.

A cluster of royal tours occurred during the interwar years. In 1920 the Prince of Wales (later Edward VIII), 'the Digger Prince', travelled through the South-West and to Kalgoorlie to meet the families of men killed during the First World War. The tour is remembered for the spectacular derailment

of the royal carriage near Bridgetown. The Duke and Duchess of York (later George VI and Queen Elizabeth) visited after officiating at the opening of the new Parliament House in Canberra in 1927. The Duke of Gloucester followed in 1934. Gloucester Lodge, built by Depression sustenance labour at Yanchep, was named after him, and in 1935 Perth's Gloucester Park was named to commemorate his marriage. He also visited as Governor-General of Australia in 1946, when the Gloucester Tree, said to be the highest fire lookout tree in the world, was named.

The high point of the royal tours was in 1954, when the young Queen Elizabeth II and the Duke of Edinburgh visited the state. It was the first visit by a reigning monarch. Originally scheduled to take place in 1952, the tour was postponed after the death of George VI. The royal couple arrived in Kalgoorlie by air on 25 March, toured Kalgoorlie and Boulder, then flew to Perth. They also visited Busselton, Albany, Northam and York. Because of the polio epidemic in WA, the original itinerary was altered and the Queen did not shake hands with people. Nevertheless, everywhere the royal couple went, cheering crowds lined the streets, their enthusiasm bolstered by extensive newspaper coverage. The departure of the royal couple in the *Gothic* on 1 April was an emotional scene with an estimated 30,000 people lining Fremantle Harbour.

In the years that followed there were a number of tours by the much-loved Queen Mother, the Queen and the Duke of Edinburgh and minor royals. The heir to the throne, Prince Charles, has visited WA five times—in 1977, 1979 (when he was famously kissed in the surf at Cottesloe), 1983, 1994 and 2005. In 1983 he was accompanied by his wife, Diana, Princess of Wales, who won the same sort of adulation that an earlier young Queen of Hearts had in 1954, giving a boost to the flagging popularity of the royal family.

There have been two visits to WA by non-British monarchs: the King and Queen of Thailand in 1962, and His Imperial Majesty Haile Selassie of Ethiopia in 1968. **Jenny Gregory**

See also: Empire, relations with; Governors; Poliomyelitis epidemic; Royal visits to Western Australia (appendix)
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); West Australian Newspapers, *The decades of royalty* (1992)

Royal Western Australian Historical Society The Royal Western Australian Historical Society (RWAHS) was founded in 1926 by a group of men and women who saw an urgent need to collect and preserve the state's disappearing documentary heritage and to record the stories of old colonists before they were lost forever. The society's foundation reflected an increased interest in history generated by the planned centenary celebrations in 1929, and concerns that many of the histories for that event were being written by 't'othersiders'—people who 'were not there and could not know what happened'.

Paul Hasluck, in his essay on the founding of the society, recalled 'the conspiratorial gathering' of interested parties in one of the bare classrooms of the university in Irwin Street, Perth. Among its number were representatives of many prominent old colonial families, including Burt, Carson, Chipper, Clifton, Cowan, Farrelly, Ferguson, Hamersley, Maley, Roe, Shenton, Stirling and Solomon. James Battye, despite his t'othersider origins, was included as State Librarian.

The first official meeting was held in the Karrakatta Club hall at 8 p.m. on 10 September 1926. Sir James Mitchell was elected President, with a committee including I. T. Birtwhistle, Mrs Edith Cowan, Paul Hasluck and R. S. Sampson MLA. The 'old colonists' who made up most of the membership included not only those who had held high-

profile positions at that time, but also men and women who were proud of their descent from respectable pioneering artisans and labourers. Hence, in the early years there was considerable emphasis on the collection of reminiscences of pioneering colonists. The memory of convictism, however, was a sensitive subject in a community as small as Perth, and the society was careful of that sensitivity until the late 1970s, despite criticism from some members and from academic historians. By then, copies of British convict records relating to Australia, and thus information about individual convicts, were readily available in the State Library.

From its beginning the society presided over the protection and preservation of historic sites and buildings, the erection of memorials and the collection, classification and conservation of Western Australian historical documents of all kinds. Members of the society were influential in the establishment of the Western Australian Archives as part of the Public Library in 1944, and of The National Trust of Australia (Western Australia) in 1959.

In 1963 the society was granted Royal Charter and in 1964 purchased premises at 49 Broadway, Nedlands, which now houses an extensive library, archive and museum collection. Monthly talks on historical subjects are published in the society's annual publication *Early Days. The Journal and Proceedings of the Royal Western Australian Historical Society*. In 2006 there were more than seven hundred members and seventy-five affiliated societies throughout the state. The RWAHS is a public- and community-focused institution which steers a path between academic and community history writing to tell the stories of Western Australian history to the wider community. **Margaret Love**

See also: Battye Library; Historical records; Historiography, Western Australia; National Trust of Australia (WA); State Records Office
Further reading: I. T. Birtwhistle, 'Royal WA Historical Society: Recollections of its First Decade (1926–1936)', *Early days*, 7, 2 (1970); A. Hasluck, *Unwilling emigrants: a study of the convict period in Western Australia* (1959); P. Hasluck, 'The founding of the Society: some personal reminiscences', *Early days*, 8, 1 (1977); M. Nind, 'Towards a State Archive in Western Australia, 1903–1945', *Early days*, 11, 3 (1997); J. Sassoon, 'Phantoms of remembrance: libraries and archives as the collective memory', in *Remembering & forgetting* (2003); C. T. Stannage, *Western Australia's heritage: the pioneer myth* (1985)

Rugby league Forty-one years after the sport was established in Sydney, the Western Australian Rugby League (WARL) was formed in Perth in 1948. The first match was played on the Esplanade, Perth, when a Perth combined team beat a Fremantle combined side 25–17. Four clubs—South Perth, Cottesloe, Fremantle and Perth—subsequently formed the association, which officially commenced its first round of matches on 24 April 1948. Applecross Club was formed later from members of the Fremantle Club.

Because of the unavailability of enclosed grounds for the finals, the WARL obtained its own enclosed ground at Higham Park, the rear section of Claremont Showground, for the 1953 season. Late in 1954, the Belmont Shire Council approved an application to build a stadium at the junction of Stoneham Street and Great Eastern Highway, Belmont, and, on 15 May 1955, League headquarters at Belmont Oval was officially opened by the Australian Rugby League President, Jersey Flegge.

The first selected representative team played against touring Sydney club Balmain in 1949 in a night match at Fremantle Oval. International games were played against the British Lions in 1950 and the following year against the French national team. In 1955 a second game against France was played at the new Belmont Oval Rugby Headquarters, in front of a crowd of 15,000 spectators.

By 1964 there were eleven senior clubs with twenty-three junior teams. In 1971 the Pilbara Rugby League became the state's first country league, and the following year the Goldfields Rugby League was established. In 1975, after twenty years, Belmont Oval lease was terminated, the Rugby League headquarters moving to the Cannington Raceway.

In the biggest gamble of the history of the NSW Rugby League, a Perth-based side became the first from WA into the competition. Despite being separated by two time zones, the NSW Rugby League decided that the logistics of playing rugby league on the other side of Australia was worth a try, because WA had more junior players than any other state outside NSW and Queensland. Named the Western Reds, the club recruited well and had a good debut season in 1995, winning eleven of its twenty-two matches and finishing a creditable eleventh out of twenty teams. The club averaged more than 13,000 spectators at the WACA ground during the season. Mounting debts and the launching of the Super League in the eastern states were responsible for the Reds being officially wound up after the 1997 season.

The sport, which has been mainly a male domain, had a small profile and limited exposure in WA schools until the formation of the Western Reds. However, after they disbanded, the WARL continued promoting the sport in local schools. The local competition receives almost no media coverage. **David Marsh**

See also: Australian Rules; Rugby union; Soccer (Association Football)

Further reading: I. Collis and A. Whiticker, *The history of rugby league clubs* (2004); W. Vamplew, K. Moore, J. O'Hara, R. Cashman and I. Jobling (eds), *The Oxford companion to Australian sport* (1997)

Rugby union was first played in Western Australia in 1881 and five clubs were formed the following year. This early growth of the

game did not continue, and in 1885 the clubs converted to Australian Rules football.

However, the discovery of gold in the Eastern Goldfields in the early 1890s resulted in an influx of immigrants from New Zealand, Great Britain and New South Wales, which enabled the sport to be reborn, and the Western Australian Rugby Union (WARU) was formed on 30 May 1893. From the outset the sport in WA moved away from the amateur class-ridden ethos of the game in England. Western Australian communities largely rejected the notion that one could be prevented from playing in amateur sports on the basis of one's occupation.

The game fell into decline between 1901 and 1905 and ceased to be played, but the WARU was re-formed in 1928. The first state team to tour was led by Gerry McGann to Adelaide in September 1935. South Australia won the first game 22–14 and WA the second 23–8. The sport continued to be played in Perth during the Second World War, though at a reduced level, and the WARU was revived in 1946. In 1971 the WARU established its first clubhouse with social facilities at the Perry Lakes warm-up ground.

In the 1950s, schoolboy and junior rugby competitions were established in the metropolitan area. Perth Modern School, Leederville Technical College, Perth Boys' School, Fremantle Boys' School, Wesley College, Christ Church Grammar School, Guildford Grammar School and Scotch College were the first schools to participate in competitive rugby union. In 1963 the Private Schools' Association established rugby as a recognised sport. Since the late 1980s, schools not affiliated with the PSA and an active Junior Union have conducted an under-age competition for club teams.

A team named Perth Gold was formed to compete in the Australian Rugby Shield's inaugural season in 2000. Perth Gold won the premiership in 2003. The competition consists of one team from states where rugby union is considered a minor sport—WA,

South Australia, Victoria and the Northern Territory—in addition to a country team from each of Queensland and New South Wales.

December 2004 signalled the biggest development in the sport in the state, when the Australian Rugby Union board selected Perth, ahead of Melbourne, to host its own Super 14 rugby team. The new southern-hemisphere international competition, which started in February 2006, includes four teams in Australia (one each in Perth, Sydney, Brisbane and Canberra), and five teams in each of New Zealand and South Africa. **David Marsh**

See also: Australian Rules; Rugby league; Soccer (Association Football)
Further reading: S. Smith, *The union game: a rugby history* (1999); B. Stoddart, 'Sport and society 1890–1940: a foray', in C. T. Stannage (ed.), *A new history of Western Australia* (1987)

Russians Like many other migrants, Russians were drawn to Western Australia by the discovery of gold during the 1880s. In 1881 there were just six Russia-born people living in the colony; in 1891 there were seventy-one and in 1901 there were 389. One was Ivan Frederics, better known as Russian Jack or 'Wheelbarrow Jack', who rescued an exhausted prospector from certain death on the track to Halls Creek and carried him to safety in his wheelbarrow. To commemorate this act of 'mateship', a statue of Russian Jack was erected at Halls Creek in 1979.

The Russian Revolutions in 1905 and 1917, and the First and Second World Wars, all gave rise to influxes of Russian migrants to WA, with the peak period of settlement occurring in the late 1940s and early 1950s. Many of the 767 Russia-born residents in WA in 1954 had come from refugee camps within Europe under the Displaced Persons Scheme. Another Russian immigrant, Kira Bousloff (Abricossova) (1914–2001), came to Australia

in 1938 as a member of the Covent Garden Russian Ballet Company, moved to Perth from Melbourne in the 1950s and established the Western Australian Ballet Company in 1952.

The fall of the former USSR, the end to restricted movement and pervading economic problems resulted in an increase in the number of Russia-born persons in WA during the 1990s. The 1991 census, the first to record separate data on Russian Federation-born, recorded 327 Russian Federation-born in WA; by 1996 the number had risen to 482, and by 2001 it stood at 682. The 2006 census recorded 3,815 people of Russian ancestry living in the state.

Since the late 1990s a Russian Community school, a library in Maylands, social clubs and education, culture and heritage groups have emerged. Some 74 per cent of the Russian community speak the Russian language at home. The West Australian Parish of the Saint Apostles Peter and Paul—Russian Orthodox Church (Abroad)—was established in the 1950s; and 20.7 per cent of the community was Russian Orthodox in 2001.

A number of street names in Perth, such as Odessa Place in Beldon, Crimea Street in Morley, and Kiev Court in Lesmurdie, commemorate the Crimean War of 1853–56.

At the 1996 census around 70 per cent of Russian-origin residents were in families with an individual income of less than $300 per week. Only 6 per cent were in the top income-earning categories ($800 per week or more), although 37.6 per cent were classified as managerial/professional. Nearly 30 per cent of Russian-origin residents have a degree/diploma qualification; 8 per cent have skilled/basic vocational qualification; and 41 per cent have no qualifications. **Irena Demkin**

See also: Dance, performance; Languages of migration and settlement; Migrant ethnic associations; Migration
Further reading: P. J. Bridge, *Russian Jack* (2002)

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Salinity is acknowledged as Western Australia's worst environmental problem, representing a multi-faceted threat to the landscape, biodiversity and public infrastructure throughout the Wheatbelt region of the south-west of the state. While parts of the region are naturally prone to salinity, secondary, or induced salinity, will result in up to 30 per cent of this region being affected, a figure which, in turn, ranks as Australia's worst single case of dry-land salinity.

Secondary, dry-land salinity is caused when native trees and shrubs are cleared and replaced by crops and/or pasture. Over time, the lack of deep-rooted native species results in excess rainfall leaching into the underground water table, which causes it to rise to the surface, bringing with it naturally occurring salt deposits accumulated in the soil over thousands of years. As the salt rises it poisons vegetation and, in the worst cases, forms a salt crust on the surface rendering farmland useless.

Western Australia's salinity problem originated in the bold plans developed in the early twentieth century to open up the south-western region of the state for dry-land agriculture and especially for wheat farming. The vision to create a vast area for export agriculture was supported by all political parties and the public as a necessary means to ensure the state's economic future.

The first wave of development peaked to encompass the desire to repay the sacrifices of soldiers returning from the First World War. The region was opened up with massive subsidies by successive state governments in the form of railway construction and operating capital to farmers. Relying on little more

than axes and unrelenting hard work, wheat production expanded rapidly between 1900 and 1930.

Warnings about the threat posed by salinity arising from clearing the land occurred from the 1890s when it was noticed by farmers and railway staff, the latter needing fresh water for locomotive engines. In the course of the 1917 Royal Commission on the Mallee Belt, set up to consider the extension of the railway into the region, considerable evidence was heard about the potential threat from salinity. However, in a pattern that was repeated many times over the coming decades, this evidence was dismissed as 'scientific prejudice'.

In 1924, railway engineer W. E. Wood published one of the first scientific papers on the problem, warning of the link between extensive land clearing for agriculture and rising salinity.

Expansion of the wheat industry gathered pace after the Second World War in response to the pressures of settlement and advances in technology. After the Second World War, the dreams of governments for the rapid expansion of agriculture in the South-West were realised through a combination of subsidised schemes to attract returned soldiers and interstate and British migrants, the advent of modified tractors for larger-scale clearance, and chemical fertilisers. All added to the 'orgy of land clearing'. In the 1960s, specially adapted tractors, operating in tandem and fitted out with chains and large steel balls, smashed the bush to the trumpeted calls for a 'million acres a year' to be cleared.

Governments ignored further warnings about the risks of salinity issued in the 1950s

and 1960s by researchers in the State Agriculture Department and the CSIRO. The state policy of 'developmentalism' was responsible for the official suspension of belief about the nature of the full extent of the threat until the first state government salinity strategy in 2000.

The first attempts to limit land clearing were bitterly resisted by farmers, and schemes to convince them to take preventative measures on their properties were slow to be adopted. The most notable of the early schemes to deal with the impact of salinity was developed in the early 1950s by Brookton farmer Harry Whittington, who created interceptor banks—based around the theory of sub-surface run-off of saline rainwater into valleys. His theory challenged the prevailing view about the rise in the watertable, with the consequence that divisions developed in the agricultural and scientific communities.

Today, dry-land salinity has unleashed biological devastation on the remaining flora and fauna of the region while eroding millions of dollars each year from the productive value of agriculture. In addition, many country towns face an uncertain future, with up to thirty centres being affected by salinity.

How much of the region can be saved from the worst predictions of ruin is the subject of ongoing debate and advances in technical solutions. However, divisions over how to deal with salinity continue, with many farmers looking towards the construction of deep drains to carry water off affected lands, while other groups favour a combination of revegetation, the application of new commercial crops based on deep-rooted native trees, improved farming methods, and integrated catchment management. **Quentin Beresford**

See also: Agriculture; Environment; Land clearing; Land settlement schemes; Landcare; Marginal areas; Migration; Wheat; Wheatbelt
Further reading: Q. Beresford, H. Bekle, H. Phillips and J. Mulcock, *The salinity crisis: landscapes, communities and politics* (2001);

A. J. Conacher and J. Conacher, *Rural land degradation in Australia* (1995); A. Gaynor, 'Looking Forward, Looking Back: Towards an Environmental History of Salinity and Erosion in the Eastern Wheatbelt of Western Australia', in A. Gaynor, M. Trinca and A. Haebich, *Country: visions of land and people in Western Australia* (2002)

Salt production began in Western Australia in the mid 1830s on Rottnest Island, using Aboriginal prison labour to collect and bag surface deposits from the salt lakes. Although this practice ceased in 1905, private companies continued to operate on Rottnest until 1947. In the period after the Second World War, small-scale salt-harvesting operations serving the domestic market were also established at Lake Lefroy at Widgiemooltha, Hutt Lagoon at Port Gregory, Pink Lake at Esperance and Lake Deborah at Koolyanobbing. These operations have now been dwarfed, however, by the establishment of a large-scale solar salt industry serving the rapidly expanding East Asian chemical industry. The ideal climatic (low rainfall, high evaporation rate) and topographic conditions (tidal flats) of the north-west coastline have resulted in five solar salt operations being constructed. The first was at Shark Bay (1963), followed in turn at Lake MacLeod (1969), Port Hedland (1969), Dampier (1972) and Onslow (2001). Sea water is pumped into large ponds from where evaporation over approximately an eighteen-month period results in the formation of salt crystals, which are then harvested. WA is the largest exporter of solar salt in the world. Gypsum has also been mined from a number of salt lakes and coastal marine basins in the state, including lakes MacLeod, Seabrook, Brown, Cowan, Cowcowing Lakes and Useless Loop. **Garrick Moore**

See also: Aboriginal labour; Pilbara; Rottnest Island Native Prison
Further reading: D. C. Jones, *Gypsum deposits of Western Australia* (1994); P. Joske,

C. Jeffery and L. Hoffman, *Rottnest Island: a documentary history* (1995); R. T. Prider, *Mining in Western Australia* (1979)

Salvation Army An international evangelical Christian organisation structured on a military model, the Salvation Army is best known for work among the poor, wartime work, community support programs and disaster relief work. Having officially arrived in the Australasian colonies in 1881, the Salvation Army did not reach Western Australia until December 1891. Setting up with a pioneer group of eight women and five male officers, under the leadership of Adjutant and Mrs Ernest Knight, the Army leased Allum's Skating Rink in Murray Street, Perth, as headquarters and for evangelical meetings. Additional stations were initially set up at Guildford, Northam, York and Fremantle.

With the advent of the gold rush, the Salvation Army set about establishing missions in the goldfields. By 1893 mission stations were operating at Southern Cross and Cue. A school for miners' children opened in 1894 at Coolgardie. The first women officers appointed to the goldfields in 1894 were soon nursing typhoid victims as an epidemic swept through. Lieutenant Zilla Smith consequently died of the disease in 1896.

In 1895 the Salvation Army began its move into institutional care with the opening of a

Salvation Army Barracks in the Eastern Goldfields, 1890s. Courtesy Salvation Army

women's refuge, the Claisebrook Street Rescue Home in Perth. That same year the Salvation Army secured 40,000 acres of land on the Collie River, known as the Collie Estate, and by 1901 two children's homes were operating on the site. The network of social institutions grew to include homes for released prisoners, maternity homes, aged-care homes and hostels for workers and travellers, including the Perth People's Palace, opened in 1911.

During the 1920s the Salvation Army brought hundreds of British immigrants to Australia on specially chartered ships. Disembarking at Fremantle, the newcomers were welcomed by Salvation Army brass bands and housed by the Army before moving on to pre-arranged employment around the country.

Over the ensuing decades the Salvation Army continued expansion in the welfare areas of aged care, drug rehabilitation and youth services. It also proved a vital community support during the 1968 earthquake when, during the immediate crisis, Army volunteers provided 1,000 meals a day at Meckering.

The successful establishment at Morley in 1984 of a youth training and employment program, Employment 2000, inspired adoption of the program nationally, and became an important step in developing the Salvation Army's national employment agency, Employment Plus. The Family Support Network, established in 1991, indicated a shift to community-based services. By 2004 the Salvation Army operated thirty-five evangelical corps in WA, with evangelical work having diversified to include community and recreation centres and activities such as the beach and surf missions operated by Floreat Army youth.

Salvationists first appear in the census in 1901, when there were 1,690 in WA—0.9 per cent of the population. For much of the twentieth century approximately 0.6 per cent of Western Australians were members of the Salvation Army. The 2006 census figures indicated a fall in membership to 5,655, which was 0.2 per cent of the population. **Helen J. Cox**

See also: Band music; Children; Homelessness; Migration; Orphanages; Poverty; Spirituality and religion; Welfare; Women's refuges

Further reading: B. Bolton, *Booth's drum: the Salvation Army in Australia, 1880–1980* (1980)

Sandgropers The term 'sandgroper' has been used for at least a century to refer to Western Australians. The first recorded 'finding' of the mole-like cricket known as a sandgroper was in 1832 on Melville Island, and the next in Perth in 1877. Otherwise known as *Cylindracheta*, these insects move by burrowing just under the surface of the earth, leaving a distinctive raised trail. There are sixteen known species of the sandgroper, with five exclusive to WA. The origin of the term as a reference for Western Australians, however, is less well documented. The first known usage was in a letter written by Henry Lawson in 1896, but it is not clear why he used this term. A 1916 publication called *Rambles in the West* states that Western Australians are called 'Sandgropers' because of the vast amount of sand in the state. It has been suggested that the term evolved during the nineteenth century, when people were bitten by sandflies, suffered sandy blight, scrubbed with sand soap and wore sandshoes. It has also been linked to the gold-rush description of WA as the land of 'sand, sin, sorrow and sore eyes'. The name seems to have been adopted both in WA and the eastern states, with newspaper reports at the turn of the twentieth century referring to the state's Australian Rules football team as the Sandgropers.

Use of the term was widespread in the interwar years. In 1929 Walter Murdoch wrote a centenary ode beginning 'Hail, Groperland! Australia West!/Of earth's fair places thou art best.' A journal called *The Groper* that ran during 1930–37 used the term 'groper' to refer to the spirit and determination of the old colonialists of WA. And in 1934, in the midst of a second gold boom, Thomas Wood wrote, 'if there had been no sand in Western Australia to goad people into reprisals, everybody there might have been tempted to lie on his back and bask in the sunshine. As it is, inhabitants of other states talk of "Sand-gropers" slightingly, but groping has paid. WA can afford to smile.' Other states also had colloquial names that were used in the army during the Second World War to distinguish the state origins of Australian soldiers. More recently, in the late 1970s, Channel 7 sold soft toys called sandgropers to raise funds for Telethon. Though use of the name has become largely obsolete, it has been a symbol of Western Australian identity for much of our history.
Anna Kesson

See also: Cinderella state; Folklore; Foundation and early settlement; Gold; Isolation, Peel settlement scheme; Swan River mania

Further reading: W. S. Ramson (ed.), *The Australian national dictionary: a dictionary of Australianisms on historical principles* (1988); G. A. Wilkes, *A dictionary of Australian colloquialisms* (1988)

School buildings The changing architecture of schools throughout Western Australia's history largely reflects developments in educational philosophy and methodology.

In the early nineteenth century most European children received instruction from either government schools or religious schools, were educated at home or received little education. As settlement became more permanent, purpose-built government schools were constructed. Separate schools for boys and for girls and, later, segregated schools were built based on the hall and gallery design, which was influenced by the early nineteenth-century English common school. Thirteen government schools were established by 1855, including Perth Boys' School, Perth Girls' School, Fremantle Boys' School,

Guildford, York, Albany, Bunbury, Fremantle Girls' School, Pinjarra, Vasse, Port Gregory and Toodyay. A private-venture school providing a limited secondary education was established in St Georges Terrace, Perth, by Bishop Hale in 1855. A number of small private schools, following the English model of dames schools, were also established, such as Mrs Herbert's school at Freshwater Bay (1862).

The passing of the *Elementary Education Act* of 1871 had the result of increasing the number of schools, as it provided government funding for both Catholic and government schools and introduced the concept of compulsory primary schooling, though it was not yet free except for children whose parents were destitute.

The population explosion resulting from the gold rushes caused immediate pressure to provide school facilities in both established areas and in numerous new towns and regions. To cope with the consequent demand, the Public Works Department (PWD) developed standard designs for school buildings (as well as other types of public buildings such as police stations and employee housing) in the late 1890s. The basic principle of school design was that of a linear model where new classrooms could be added to the existing single classroom or classroom block, as necessitated by student numbers.

The impact of the population surge and the passing of the *Education Act* of 1899, providing free compulsory education for all six- to fourteen-year-olds, can be seen in the following statistics. There were 82 government schools in WA in 1890, increasing to 245 schools in 1902. The size of schools could range from one-room schools to very large schools with more than five hundred pupils. The 1896 Central Boys' and Girls' Schools in James Street, Perth, for example, provided accommodation for 500 boys on the ground floor and 500 girls on the upper floor.

The linear design gave more flexibility and, under the guidance of Cyril Jackson as Inspector-General of Education (1897–1903),

enabled some of the educational reforms of the 'New Education', based on the ideas of European educators such as Friedrich Froebel (1782–1852), to be introduced into WA schools. These emphasised child-centred learning and early childhood education. Hence, from 1898 separate infants' departments for children aged six to eight increased rapidly in Perth, Albany, Bunbury and the Kalgoorlie-Boulder district.

In these years the government did not provide for the education of children with special needs, although the government did establish the Victoria Institute and Industrial School for the Blind in Maylands in 1895 (extended in 1937), and provided land and a grant towards the WA School for Deaf and Dumb Children, built in Cottesloe in 1900.

Private schools founded in the early years of the twentieth century often bought or were bequeathed large homes that were converted into schools. Claremont Ladies' College (forerunner of St Hilda's School for Girls), for example, purchased the two-storey home of a timber magnate in Claremont in 1899. A benefactor made possible Scotch College's 1905 move to a large single-storey Claremont home and the building of a two-storey classroom block in its grounds. On the other hand, the first buildings at Methodist Ladies' College were purpose-built in 1908.

With the appointment of Cecil Andrews as Inspector-General of Education (1903–29), emphasis was placed on increasing the school retention rate: in 1903 only one in every twelve students continued their education beyond primary school. To enable students to proceed to Junior Certificate, the largest primary schools were expanded to become Central Schools in 1909 (six in the city and two in the Eastern Goldfields), and new district high schools were established at Northam and Geraldton in 1917 and at Albany and Bunbury in 1918. Perth Modern School, the state's first government secondary school providing education to tertiary entrance level, was established in 1911. The standard linear

design continued to dominate government-school architecture until well into the 1950s, though there were changes to the external appearance and detailing of schools and these reflected the evolution of architectural design in the PWD. Perth Modern School was one the more substantial commissions of the PWD during the design leadership of Hillson Beasley. The external appearance of the earliest section, the 'west building', like the Perth Central Schools, followed the Federation Arts and Crafts style.

The Depression and the Second World War reduced the availability of funds and materials, and this was reflected in the PWD's choice of lighter-weight construction materials such as fibro cladding. The advantage of these, as well as existing single timber-framed classrooms, was that they could be relocated to other school sites as required. Design modifications were also made to classrooms to accommodate climatic conditions, particularly in the warmer northern areas where the tropical classroom design was used. Where once open-air timber and canvas pavilion classrooms were used as portable schools in areas of rapid population growth, to help address accommodation problems during the postwar years when the school system in WA had to cope with an extra 5,000 pupils each year, hundreds of Bristol prefabricated classrooms were constructed. Later, Stramit 'demountable' classrooms were used.

With the exception of the construction of Kent Street High School (1939), designed in the Interwar Free Classical style, there was little expansion of secondary education in the interwar years. The rapid expansion of the postwar era is reflected in the establishment of John Curtin High School, Hollywood High School and Armadale High School, all built in the International style in the mid 1950s. By 1960 there were 27 comprehensive high schools and 35 junior high schools throughout the state.

From the early 1960s, changes in educational ideals and teaching practices led to a demand for more adaptable teaching spaces and the development of the 'cluster' design, a series of teaching blocks on the one campus. The first example of the new cluster primary school in WA was Belmay Primary School in Cloverdale (1967). Variations on the design followed. A new design for secondary schools, 'flexible area' schools, was developed in 1977 and was first implemented at new high schools at Wanneroo and Willeton, where students occupied year-blocks rather than faculty-blocks. Increasing diversity was also recognised by the development of ten special-interest schools in 1981, whereby schools are noted for their expertise in particular subject areas.

More recently, changing demographic trends have reduced the demand for classroom space, and in 1998 the Education Department rationalised high schools in the metropolitan area. By then the functions of the architectural division of the PWD had transferred to first the Building Management Authority (1985–1995), then to Contract and Management Services (1995–2000), and then to Housing and Works (2001). Schools were no longer designed by the government. City Beach, Swanbourne and Hollywood were closed in 2000. In 2001 Shenton College opened, a new high school designed for the Education Department by architects James Christou & Partners. It was intended to facilitate a more liberal curriculum and create a showcase school that could compete with the private sector. **Lucy Williams, Kristy Bizzaca and Jenny Gregory**

See also: Architecture; Built heritage; Children; Education, early childhood; Education, government secondary; Education, independent schools; Education, primary; Perth Modern School

School of Mines Gold was discovered at Coolgardie in 1892, creating a need for technical education to improve mine safety and efficiency. The nearest School of Mines

was then in Adelaide. Coolgardie decided to host the 1899 Coolgardie International Exhibition, and the local community agreed to construct a building suitable for future educational use.

Mining education became available in Perth in 1900, but the goldfields wanted its own school, which opened with sixty students at Coolgardie in November 1902. In 1903 the government announced a School of Mines for Kalgoorlie, now emerging as the major mining centre. Coolgardie became one of several branches, and was eventually closed. The fine Exhibition building became derelict, and was destroyed by fire in the 1930s.

In 1907 a purpose-built Mineralogical Museum was added to the Kalgoorlie School of Mines—it was the first regional museum in WA, and survives largely unchanged.

The two world wars and the years between were mostly difficult times for the gold industry, but the School of Mines (now WASM) grew by broadening its curriculum. In 1969 it merged into the new WA Institute of Technology (WAIT), and began upgrading to degree courses. A 1976 proposal to locate all mining education at the main WAIT campus in the Perth suburb of Bentley was defeated by lobbying from the Kalgoorlie community.

In 1987 WAIT became Curtin University of Technology. Further expansion and partnership with the TAFE sector has created the multi-disciplinary Curtin Kalgoorlie, with WASM at its core. **David Dolan**

See also: Curtin University of Technology; Mining and mineral resources
Further reading: G. McLaren, *Miners and mentors: a centenary history of the Western Australian School of Mines* (2001)

Science fiction and fantasy used Western Australia as 'uncharted territory' for early romances by Carlton Dawe, G. Firth Scott, J. F. Hogan, and Ernest Favenc. G. M. Glaskin published science fiction (SF) novels in 1959 and 1965, but the main WA output in SF and fantasy has taken place since 1990. Greg Egan enjoys international fame for his novels and stories and is arguably the most critically acclaimed SF writer Australia has ever produced; Stephen Dedman sells stories and *noir* urban fantasy novels in America; and Hal Colebatch contributes stories and novellas to the US *Man-Kzin Wars* series. Tess Williams earned critical applause for the exploration of eco-feminist themes in her novels and stories; Sherry-Anne Jacobs (writing as Shannah Jay) blended SF, fantasy and romance in her *Chronicles of Tenebrak* series; and Dave Luckett has won Aurealis Awards for his *Tenebran* fantasy trilogy. Carolyn Logan, Sue Isle, and Warren Flynn have produced significant work for younger readers.

Eidolon: The Journal of Australian Science Fiction and Fantasy (1990–99) was crucial in the 1990s renaissance of Australian SF and fantasy; UWA Press published the award-winning anthologies *Women of Other Worlds* (1999) and *Earth is but a Star* (2001); the editorial collective for *Andromeda Spaceways Inflight Magazine* (2002–) includes Western Australians; and the academic journal *Science Fiction: A Review of Speculative Literature* (1977–) has been edited and published from Perth since 1980. **Van Ikin**

See also: Fiction
Further reading: R. Blackford, V. Ikin and S. McMullen, *Strange constellations: a history of Australian science fiction* (1999); P. Collins (ed.), *The MUP encylopaedia of Australian science fiction & fantasy* (1998); www.austlit.edu.au

Scientific literature The first scientific writing published in Western Australia was in the form of articles in *The Perth Gazette* (1840–41) and *The Inquirer* (1842) by James Drummond on the local flora (including poisonous plants), and by the zoologist John Gilbert on the natural history of the Houtman

Abrolhos in 1842. Early formal scientific writing included reports commissioned by the colonial government, such as geological reports by F. von Sommer (1847–49) and H. Y. Lyell Brown (1871–73), and F. Mueller's *Plants Indigenous around Sharks Bay and its Vicinity* (1883). Publication programs, including the annual reports required under legislation, were also begun by government departments, among the earliest being the Geological Survey (established 1888), Western Australian Museum (1891), the Bureau (later Department) of Agriculture (1898) and Forests Department (1918). The *Western Australian Year Book*, published between 1886 and 1998, contains overviews of the state's natural environment and resources. *Minerals of Western Australia* by government mineralogist Edward Simpson was published posthumously in three volumes in 1948.

The earliest scientific periodical was the *Journal and Proceedings of the Mueller Botanic Society of Western Australia*, first published in September 1899. After several mutations it became the *Journal of the Royal Society of Western Australia* and has remained the premier general scientific outlet, especially for staff of government departments and the state's universities.

From the foundation of The University of Western Australia (UWA) in 1913, its scientific staff have published scientific papers and books, and those of the more recently founded universities likewise. The University of Western Australia Press, founded in 1935 as the University Text Books Board, published undergraduate textbooks in geology and physics as well as atlases of WA agriculture (1941) and climate (1952). Its first botanical publication was *How to Know Western Australian Wildflowers* (1954), written by amateur botanist William Blackall and edited by Brian Grieve of the Botany Department at UWA. The Press has maintained this tradition of scientific publishing. In 1970 the Western Australian Herbarium began issuing its own taxonomic journal *Nuytsia*.

Amateur workers have made significant contributions to the scientific literature of the state. Noteworthy are Hubert M. Whittell's works on ornithology and Rica Erickson's books on flora. The Western Australian Naturalists' Club, founded in 1924, has published a natural history journal since 1947 and handbooks of a high standard. **Alex S. George**

See also: Book publishing; Botany; Exploration journals and diaries; Geological history; Journals and magazines; Ornithology; Scientific societies

Further reading: C. Fitzgerald, *A press in isolation: University of Western Australia Press, 1935–2004* (2005); P. C. Withers, 'A brief history of the journals, crest, medal and seal of the Royal Society of Western Australia and previous societies', *Journal of the Royal Society of Western Australia*, 81, 14 (1998)

Scientific societies With encouragement from explorer and politician John Forrest, the West Australian Natural History Society, the colony's first scientific society, was formed in September 1890 with Forrest as president. Forrest was keen on science and had presented papers at the British Association for the Advancement of Science in Manchester (1887), the inaugural Congress of the Australasian Association for the Advancement of Science (AAAS) in Sydney (1888), and, *in absentia*, the Melbourne Congress (1890). The Society lasted until about 1895.

Its successor, the Mueller Botanic Society, was inaugurated in July 1897 and began publishing a journal in 1899. In April 1903 it adopted the 1890 name and introduced lectures on zoology and geology. In August 1909 it became the Natural History and Science Society of Western Australia, adding talks and excursions on astronomy and chemistry. Reinforced by professors from the new University of Western Australia, the Society obtained Royal approval, becoming the Royal Society

of Western Australia (RSWA) in March 1914, inaugurating a new journal the same year.

The following year the chemists formed the Chemical Society of Western Australia (1915–32) to contribute to the war effort. RSWA members keen on a more practical study of biology with emphasis on excursions formed the WA Naturalists' Club as an offshoot in July 1924, and the club has published *The Western Australian Naturalist* since 1947.

Isolated by lack of a railway connection, WA was slow to form a division of AAAS but finally did so in 1909, hosting the 1926 Congress at Perth Modern School. AAAS became ANZAAS in 1930. Discussions within Section C (Geology) of the 1947 Perth Congress spawned the formation of the Geological Society of Australia in 1951, with a WA division formed in December 1952. Further ANZAAS congresses were held in Perth in 1959, 1973, 1983 and 1993.

Also in 1909, the Natural History and Science Society tried unsuccessfully to form a WA branch of the new Gould League of Bird Lovers. The Royal Australasian Ornithologists Union (RAOU) tried again during its first WA 'campout' and congress in 1920, but it was not until 1939 that an Education Department initiative brought it to fruition. Consisting largely of schoolchildren, who paid a subscription of one penny a year and signed a pledge not to collect birds' eggs, membership peaked at 18,000 in 1955. In December 1956 the name was changed to WA Gould League with objectives widened to include a study of 'all forms of nature'. In 1943 the RAOU formed a WA section, now Birds Australia Western Australia.

A Western Australian Astronomical Society, which was formed in November 1912 and published annual *Proceedings* from 1913, became the WA Branch of the British Astronomical Association in March 1927 before folding late in 1929. The present Astronomical Society of Western Australia began in May 1950.

Membership of these scientific societies required no scientific qualifications. The first professional society was the WA Branch—inaugurated March 1917—of the new Australian Chemical Institute (Royal Australian Chemical Institute since 1949). Australian physicists broke away from 'The Institute of Physicists and the Physical Society' of London to form the Australian Institute of Physics, including a WA Branch, in 1963.
Steve Errington

See also: Botany; Chemistry; Geological history; Journals and magazines; Ornithology; Physics; Scientific literature; Zoology
Further reading: C. F. H. Jenkins, *John Gould and the birds of Australia* (1983); R. MacLeod (ed.), *The Commonwealth of science: ANZAAS and the scientific enterprise in Australasia 1888–1988* (1988); W. Orchison and J. Perdrix, 'The British Astronomical Association in Australia: a centennial perspective', *Australian journal of astronomy*, 3 (1990); P. C. Withers, 'A brief history of the journals, crests, medal and seal of the Royal Society of Western Australia and previous Societies, 1897–1997', *Journal of the Royal Society of Western Australia*, 81 (1999)

Scots Scottish migration and its impact on Western Australia dates back to the colony's first governor, Scot James Stirling, as well as Scots James Drummond and the Brouns aboard the *Parmelia* in 1829, and the naming of the capital Perth. Before the end of 1850, close to two hundred Scots had arrived in WA, over two-thirds settling permanently. By 1859 Scots represented 3.6 per cent of the white population. In 1901 this decreased slightly to 3 per cent, a rate maintained ever since. At the 2006 census 153,630 Western Australians claimed Scottish ancestry.

In the nineteenth century Scots favoured the Toodyay and Plantagenet districts. Unlike a large number of English migrants who favoured settling in Perth and Fremantle,

Scots moved to regional areas, a pattern they shared with the Irish. With English interests dominating Perth and Fremantle, Scots looked to Albany and Toodyay as centres for their pastoral and business concerns. Some of the colony's most influential pastoral families were of Scottish origin, including the MacPhersons and MacKintoshes of Toodyay and the Victoria Plains. Descendants of the Muirs and Moirs of Albany and Manjimup today number over four thousand, with a long history in the whaling, merchant and pastoral industries and local government. Scottish participation in local government was disproportionate to their overall numbers: Western Australia's first premier, Sir John Forrest, was the son of Scottish parents.

In the early part of the twentieth century a number of Scottish families came to WA through the Group Settlement Scheme, including the Clarks at Cowaramup, the Donaldsons and Murdo Nicholsons of Group 97 at Pemberton, and the Browns of Group 19 west of Manjimup. A large number of Scots also took up pastoral leases in the North-West, a number coming from Victoria. From the late twentieth century Scots have shown a preference for settling in metropolitan areas with a higher British population such as Rockingham, Wanneroo, Gosnells and Armadale.

Scottish migrants have left their mark in the naming of the landscape. Hawthornden, Deeside and Burnside homesteads can be traced to early Scottish families. Perth suburbs Dalkeith, Bassendean and Duncraig are all named for Scottish places. Applecross was established by wealthy Scot Alexander Matheson in the 1890s. Ravenswood, outside Pinjarra, was the original title of Adam Armstrong's homestead, named for a Scottish farm. Close to 20 per cent of Perth metropolitan suburbs have Scottish naming origins.

Scottish migrants brought Presbyterian religious identity to WA. The first Presbyterian ministry was founded at Newcastle in the 1860s, and in 1882 the colony's first Presbyterian church, St Andrew's, opened in Perth. Now a Uniting church, St Andrew's continues to celebrate its Scottish origins.

From 1885, Scots and their families established Caledonian Societies in Perth, Albany and Kalgoorlie. These societies still operate today, along with the Scottish Heritage Society. The WA State Police has its own pipe band that has performed over the years at the Edinburgh Military Tattoo.

Scots, including second and third generation, made important contributions to education in WA. Scotch College and Presbyterian Ladies' College both demonstrate their Scottish heritage today in the form of house names, tartan uniforms and pipe bands. P. C. Anderson, principal of Scotch College 1904–46, was a Scot from St Andrews.

Since 1829 Scots have arrived in small numbers in WA, but their migration represents a stable contribution to WA history. Perhaps their most apparent contribution to WA is the ongoing interest shown by second- and third-generation Scots in celebrating Scottish origins. Descendants of Scots are central to Scottish societies, schools, churches and interest groups that continue to recognise Western Australia's links with Scotland. **Leigh S. L. Straw**

See also: English immigrants; Group settlement; Migration; Presbyterian Church
Further reading: J. Hewitson, *Far off in sunlit places: stories of the Scots in Australia and New Zealand* (1998); M. D. Prentis, *The Scottish in Australia* (1987); L. Straw, 'Scottishness in Colonial Western Australia', *Early days*, 12, 4 (2004); L. Straw, *A Semblance of Scotland: Scottish Identity in Colonial Western Australia* (2006)

Scouting Robert Baden-Powell's book *Scouting for Boys,* published in 1908, inspired the establishment of scouting in Western Australia as it did the world over. Eighteen-year-old Frank Roche read the book and started a small group in Spearwood in late 1908, with

others following suit over the next few years. A meeting of sixteen scoutmasters took place on 9 August 1909 in Subiaco, resulting in the formation of an Executive Council on 8 September that year. The Wolf Cubs (later Cub Scouts) and the Rover Scouts for older boys began in 1919.

The aims and principles of scouting first espoused by Baden-Powell a century ago still structure the movement today. The aim of scouting is to encourage the physical, intellectual, social, emotional and spiritual development of young people to enable them to take a constructive place in society as responsible citizens, and as members of their local, national and international communities. The principles of scouting include serving God, acting in consideration of the needs of others, and development and use of one's abilities for the improvement of self, family and community.

Scouting in WA spread rapidly. When Baden-Powell visited the state in 1912, membership already stood at one thousand. Numbers peaked at ten thousand during the 1980s. At the beginning of the twenty-first century, membership stood at six thousand, the fall in numbers a result of the difficulty in recruiting committed volunteer leaders.

The 1970 report *Design for Tomorrow* reflected scouting's desire to keep up with community and social changes. New programs were implemented in all sections during 1973 and an ongoing process of review put in place. During this major change, Senior Scouts became Venturer Scouts, and Wolf Cubs became Cub Scouts. The Rover Scout was more clearly defined and female youth members were introduced to Venturer Scouts and Rover Scouts. The Joey Scout section, for children aged six to eight, and female membership in all sections, were introduced in 1990.

Service to the community has always been at the forefront of scouting. During the First World War, WA scouts helped to make 350,000 bags for the 'Sandbags for Gallipoli' project. Rover Scouts mounted their first Anzac Vigil at the War Memorial in Kings Park in 1934, a practice that continues today. During this period, four thousand Scouts undertook water safety, plane spotting and salvage projects, which brought about the beginning of Air Scouts in 1944.

Scouting has always provided training for the volunteer leaders. The first Gilwell training camp was held at Karrakatta training centre in 1923, relocated to Kelmscott in 1935 and once again to Manjedal (between Byford and Jarrahdale) in 1968. The Scout Association is a registered training organisation (Scout Institute of Training).

Perth has hosted many national and international scouting events, including national Rover moots in 1926, 1972 and 1992; international jamborees in 1929, 1979–80 and 1994–95, and a national Senior Scout venture held in 1965. WA Scouts marked the end of the Second World War with a jamborette in 1946. **Peter F. Jones and Ian Jennings**

See also: Guides Western Australia; Youth movements

Sealing Earliest references to sealing in Western Australia can be found in records relating to the Dutch ships *Batavia* (1629) *Waeckende Boey* (1627) and *Zeewyk* (1727). Inspired by Vancouver's 1791 visit, the American-owned vessel *Union* worked along the south coast in 1803. This followed the extinction of the Falklands seal populations. Similarly, seal depletion in the Bass Strait plus interference from colonial authorities saw smaller sealing gangs visiting the South-West by the mid 1820s. Multi-ethnic, they included Europeans, Tasmanian Aborigines and Maoris. Their exploration of south-west estuaries and near-shore islands preceded official colonial efforts. By the 1820s the Recherche Archipelago's seventy-five or so islands had become a favoured haunt of sealers.

The relatively tenuous commercial prospects ensured sealing remained a sporadic activity more favoured by itinerants than

settlers. Two species of seal were available: the hair seal or sea lion, which was sighted in the warmer waters of the west coast, and the more desirable fur seal, found mainly along the south coast.

The popularised view of sealers has long been that they were brutish individuals who molested Aborigines, thus encouraging indiscriminate retribution against colonists. Of arguable notoriety was the Afro-American sealer 'Black Jack' Anderson who, with two Aboriginal wives and some children, established a permanent camp on Mondrain Island in the Recherche in the late 1830s. He was allegedly murdered by associates prior to 1842. In 1839 the Government Resident at King George Sound expressed apprehension in official circles that illegitimate children of sealers might claim a birthright over offshore islands.

Sealing continued in a sporadic way through to the twentieth century but was not commercially significant. Uncertainty obliged hunters to diversify into mutton-birding, egg-collecting, and supplying fresh fish to visiting ships at Albany. In 1891 two operators obtained 3,000 seal skins worth about £1,000. However, the setback to the seal population was significant. The following year seal skins to the value of only £170 were exported. The slaughter in part prompted the creation of the *Game Act 1892*, which enabled a closed season to be applied in the breeding season between November and March. The last nineteenth-century sealing operation in the Recherche is believed to have been by a Fremantle-constructed ketch *Kia-Ora*. The venture failed and the boat was converted for fishing the Houtman Abrolhos Islands.

In November 1950 the Australian Geographical Society visited the Recherche and found that hair seals predominated, with only one small colony of fur seals being sighted on an exposed outcrop.

There is little archaeological evidence that seal hunting was ever a regular activity of Aboriginal people in the South-West.
Paul Weaver

See also: Whaling
Further reading: P. Weaver, 'Maritime resource exploitation in southwest Australia prior to 1901 [microform]', PhD thesis, Edith Cowan University (1997)

Secession Impulses for secession in Western Australia have always been a feature of Australian federalism, though usually an underlying one. They date almost from Federation, and derive initially from the unpropitious circumstances of WA joining the Commonwealth. The state was remote from eastern population centres and new to self-government. It entered Federation only under pressure, both from within Australia and from London. Secessionist agitation began immediately. The matter was discussed in the WA parliament in 1902, and a resolution for a secession referendum passed the Assembly in 1906, but was not pursued.

Western Australia's grievances were essentially economic. Their core was that the Commonwealth Constitution's financial settlement had two disproportionately negative effects on the state. First, the federal tariff protected inefficient eastern industries, making their products more expensive in the West, but was of no benefit to WA, which lacked secondary industry. Second, section 92's imposition of continental free trade prevented WA from protecting its own fledgling industries and fostering them as alternative sources of goods, plant and machinery.

These effects pre-dated but were exacerbated by the Great Depression. This intensified Western Australian resentment of the Commonwealth as national economic manager. Other factors, such as the state's tiny representation in the Commonwealth parliament, and the centralising tendencies of the High Court, were also resented. A Secession League was formed in 1926, becoming the Dominion League in 1930.

In 1930, conservative premier Sir James Mitchell declared for secession, and announced

it would be put to referendum. This occurred on 7 April 1933, the same day as a state election. Almost two-thirds of electors voted for secession. Ironically, Mitchell lost the election and was replaced by Labor's Philip Collier who, although anti-secessionist, pursued the referendum outcome, petitioning the Imperial parliament to amend the Commonwealth Constitution to excise WA from the federation.

Only then did the Commonwealth become seriously concerned, partly because other states were observing events closely. It opposed the reception of the petition in Westminster as constitutionally improper. Cases for and against secession were published and distributed to electors throughout WA.

In February 1935 the Imperial parliament appointed a Joint Select Committee to consider the propriety of receiving the petition. Legal representatives of WA and the Commonwealth addressed the Committee, making remarkably explicit threats. On 24 May 1935 the Committee predictably reported that the Imperial parliament would not amend the Commonwealth Constitution without the Commonwealth's consent, dooming Western Australia's bid. The state took this philosophically; by 1935 economic conditions had improved, and the threat of war stressed the need for unity.

Secession has sporadically resurfaced in WA since 1935, usually when Commonwealth economic policy is uncongenial. It has never amounted to a popular movement, or been formally pursued by government.

The movement for secession in WA represented a serious threat to Australia's integrity. It was not merely an eccentric reaction to the Depression, but a direct response to outcomes of Federation. Australia was fortunate that contemporary economic and political factors combined to frustrate the movement. Any recurrence, except in the most extraordinary circumstances, is highly unlikely. **Greg Craven**

See also: Cinderella state; Commonwealth, relations with; Constitution; Depression; Dominion League; Eastern Goldfields Reform League; Federal movement; Isolation; Politics and government

Further reading: G. Craven, *Secession, the ultimate states' right* (1986); E. D. Watt, 'Secession in Western Australia', *University studies in history*, 3 (1958)

Second World War For Western Australians the Second World War began as a distant conflict, before becoming more immediate. The German sinking of the HMAS *Sydney* off the coast near Carnarvon on 19 November 1941, and the landing of two boatloads of German seamen north of Carnarvon in late November, brought war to the doorstep. Japan's entry into the war was a direct threat, particularly after the fall of Singapore on 15 February 1942. Located closer to parts of Asia than to Sydney, Western Australians had reason to feel isolated and vulnerable.

Japanese Zero fighters attacked Broome on 3 March 1942, killing up to one hundred people, including Dutch evacuees. Air raids on Kalumburu, Wyndham, Derby, Broome, Carnot Bay, Port Hedland, Onslow and Exmouth Gulf were seen as a prelude to invasion. Perth became a city of refugees as thousands arrived from Singapore, Malaya, the Dutch East Indies and the North-West, ahead of the Japanese war machine's advance. As one correspondent put it, the city was 'full of stories of escape and shipwreck'. Many families had loved ones fighting or in POW camps overseas, adding to the mood of desperation. While the threat of invasion receded, as late as 1944 there were fears of a Japanese attack.

Fremantle became important as a submarine base, hosting nearly two hundred submarines and support ships. Most were American, but they also included a handful of Dutch submarines after the fall of Surabaya and over thirty British submarines from 1944. Fears of an attack on Fremantle resulted in part of the fleet being stationed at Albany for a time. Submarine refuelling bases were also

A.R.P. demonstration at Subiaco State School. Two boys in gas masks carrying boy out of building, May 1940. Courtesy West Australian *(WAR18)*

established at Exmouth Gulf (by the Americans) and Onslow (by the British). As part of the Western Defence Strategy, the coastline was divided into seven defence sectors. Troops were garrisoned in the South-West, volunteers mounted a coast watch in the North, and Rottnest Island became a military establishment. Careening Bay on Garden Island served as a training base for the Special Reconnaissance Department's 'Z' force, a top-secret undercover commando force of handpicked volunteers from the Australian forces, who used midget submarines and other means to infiltrate the Japanese line. The RAAF base at Pearce had been completed in 1938 and a network of airbases was established at Learmonth, Corunna Downs and Truscott in the Kimberley, Geraldton, Cunderdin, and, for Catalina flying boats, at Geraldton and at Crawley on the Swan River.

In 1942 the federal War Cabinet decided that, if invaded, Australia would only be defended south of the Brisbane Line, an imaginary boundary extending roughly from Brisbane to Adelaide, thus protecting the south-east of Australia, but excluding all of WA. Prime Minister John Curtin, a Western Australian, ensured that Perth would be defended after furious lobbying. The white population of the north was then evacuated.

The arrival in the state of American military personnel from early 1942 buoyed local spirits. Most were submariners or aviators on a higher rate of pay than soldiers, so Western Australia's experience differed from the eastern states where mainly army combat troops passed through. Going out with Americans was initially a patriotic duty for many women, but they were soon impressed by American courtesy and generosity and, in the fraught atmosphere of war, courtships and marriages came quickly. Stories of adultery and sexual scandal circulated widely, while venereal disease was perceived as a serious social threat. A parliamentary committee was set up to investigate juvenile delinquency, believed to result from the absence of fathers.

Visiting servicemen gave a shot in the arm to the local economy: men and women had been manpowered to keep essential services going and to work in munitions factories; food, clothing and petrol had been rationed; and people had been encouraged to 'Dig for Victory' and grow their own vegetables. Movie theatres and brothels now did unprecedented business and restaurants and nightclubs proliferated.

There was, however, no single or homogeneous WA perspective on the war. For some women and Aboriginal people the war increased employment opportunities and independence. For over a thousand Italians and hundreds of Japanese the war brought internment. For an estimated 83,000 men and 5,000 women, more per head of population than any other state, the war meant enlistment in the military and the prospect of premature death. **Michael Sturma**

See also: Air Force; Army; HMAS *Sydney*; Internment; Military camps; Navy; Pacifism; Prisoners of war; Repatriation, Second World War; Returned and Services League; USA, relations with; Venereal disease; VP Day; War memorials; Wartime propaganda; Women, world wars; Women's Land Army

Further reading: A. J. Barker and L. Jackson, *Fleeting attraction: a social history of American servicemen in Western Australia during*

the Second World War (1996); J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

Sectarianism commonly refers to cleavages in society that are religious at base. In Western Australian history the most significant of such divisions has been among Christian denominations rather then between different religions. From the foundation of the Swan River colony the Church of England was closely connected with the settlement and its ruling elites, and the vast majority of settlers were, nominally at least, Anglican. Members of other Protestant groups, such as Wesleyans and Congregationalists, also established themselves, acquiring political influence and power. Other religious groups mentioned in the early census included Jews, 'Mohamedans' and 'Pagans'.

With immigration the proportion of Catholics rose significantly—7 per cent in 1848; 29 per cent in 1870—with a concomitant transplanting of social and religious divisions evident in Britain. The growing Catholic population led to a successful petition for state financial support for Catholic schools in 1871, despite the previous antipathy of the Church of England, and in part thanks to the support of Frederick Weld, the first Catholic governor of WA. By the end of the century Catholics found their political interests best served by electing identifiably Catholic representatives to political office, such as the Perth City Council. Protestants similarly used sectarian rhetoric to politically galvanise their constituents in the run-up to elections.

The twentieth century saw the ineluctable waning of the place of the Anglican church in WA politics. All religious communities came to operate as pressure groups, albeit claiming religious moral authority. They often articulated concerns whose focus was the maintenance of religious identity. Education is again an excellent case in point. Various Christian denominations, and, more recently, adherents of other religious traditions, have sought the right to establish schools with specific religious foundations, obtaining the sanction and financial support of state governments to do so. This is a form of sectarianism, but, even though Anglicans and other Protestants campaigned against the Catholic campaign for state aid for Catholic schools in the 1950s, it has not served to foster profound social division.

Nevertheless, sectarianism was entrenched in many aspects of WA life well into the 1950s. Some parts of the public service (for example, the Police Department) were said to be dominated by Catholics. Others were said to be dominated by Masons. Some companies would only employ Catholics, some only Protestants. Mixed marriages between Catholics and Protestants were actively discouraged. Schoolchildren from different denominations mocked each another—Protestant children chanted 'Catholic dogs jump like frogs, eat no meat on Friday'; Catholic children retorted 'Catholic kids ring the bell, Proddie kids rot in hell'.

Up until the 1960s relations between Catholics and Protestants tended to be characterised by negative stereotyping of each other's beliefs and practices. But by the late 1960s much of the heat of Christian sectarianism had dissipated, replaced by mutual respect. This was due in part to the rise of the ecumenical movement but also the recognition among Christian leaders that they faced a common enemy—secularism.

From the mid 1970s the influx of migrants from Asia and the Middle East with a variety of religious commitments—Islam, Buddhism, Hinduism, as well as various forms of Christianity—raised the profile of religious pluralism, even though all these religious traditions, and also Judaism, had very long histories in WA. The 1970s also witnessed the appearance of a number of new religious movements, some with roots in traditional religions, so that by the year 2000 there were some three hundred different religious groups identified within the state. While Anglicans

and Catholics remain the largest groups, with 20.4 per cent and 23.6 per cent of the population respectively in the 2006 census, since the 1960s the most impressive growth has been among those claiming no religious affiliation: 0.9 per cent in 1966 to 22.8 per cent in 2006. **Peter Bedford**

See also: Anglican church; Buddhism; Catholic church; Education, Catholic; Hinduism; Judaism; Muslims; Spirituality and religion
Further reading: D. F. Bourke, *The history of the Catholic Church in Western Australia* (1979); H. M. Carey, *Believing in Australia: a cultural history of religions* (1996); M. C. Hogan, *The sectarian strand: religion in Australian history* (1987); C. T. Stannage, *The people of Perth* (1979)

Section 54B The notorious Section 54B of the *Police Act*, preventing public assembly by more than three people without permission of the Police Commissioner, was forced through the Western Australian parliament in 1976 by a Liberal–Country Party government led by Sir Charles Court. Labor Party members saw it as removal of the right of assembly hard won by working people in the nineteenth century.

The catalysts were a heightened level of community activism following the anti-war movement of the mid 1960s, increasingly rowdy political meetings in the 1970s, and a substantial rise in industrial disputation. On 25 March 1974, for example, Prime Minister Gough Whitlam, speaking to a crowd of more than 10,000 in Forrest Place, Perth, in support of the doomed Tonkin Labor government, was hit by missiles including a full can of soft drink and two tomatoes. In 1969 the number of strikes in Perth each year increased to 125, from a maximum of 33 a year in the earlier sixties, and had risen to 257 in 1974. Despite the passing of Section 54B the number of strikes continued to rise: to 306 in 1978, and 436 in 1982.

In June 1979 ten unionists were arrested under Section 54B when they addressed an illegal meeting in support of striking unionists in the Pilbara. Faced by the threat of a nationwide stoppage by unionists supporting the arrested unionists, the WA government announced a review of the state's public assembly laws. Section 54B was refined, but police permission was still required before any meeting or procession could be held in a public place. According to unionists the changes were merely cosmetic. Protest continued, notably over incursions by mining giants CRA and Amax to drill for oil on Noonkanbah Station and the consequent desecration of sacred sites. Despite this, and although Section 54B was tested in the courts, it was not repealed until the Burke Labor government came into office in 1983. The new WA *Public Meetings and Processions Act No. 23 1984* still required police permission for assemblies and processions, though now there was recourse to appeal to a magistrate if a permit were refused. **Jenny Gregory**

See also: Noonkanbah dispute; Police and policing; Trade unions
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003)

Section 70 of the *Constitution Act 1889* provided that one per cent of Western Australia's annual revenue should be appropriated for the Aboriginal inhabitants of the colony. This was unique in Australian colonial history. The provision was included in the constitution at the instigation of Governor Sir Frederick Napier Broome, with strong support, officially and unofficially, in London. It was strongly resisted by the colonial government led by Sir John Forrest. After an attempt to repeal Section 70 in 1892 proved abortive, an Act repealing Section 70 was passed in 1897.

In 1905 Mr F. Lyon Weiss raised doubts about the validity of the 1897 repeal. In response, a new repeal Bill was enacted.

In 1946 a miner with close connections to the Aboriginal community, Don McLeod, queried whether the 1905 repeal was effective, persisting with his claim for the next fifty years. The issue featured prominently in disturbances over drilling at Noonkanbah Station near Fitzroy Crossing in 1978.

In 1994 a group of Aboriginal plaintiffs commenced an action in the State Supreme Court seeking a declaration that the 1905 repeal was invalid. Each of the plaintiffs were members of the Strelley mob associated with Don McLeod and the 1946 pastoral workers' strike. The first plaintiff was Snowy Jundamia, who had been alive in 1905 when the challenged repeal occurred. After his death the action was continued in the name of Crow Yougarla, the senior Aboriginal elder. In 2001, after protracted litigation, the High Court held that the 1905 repeal had been legally effective. Although legally unsuccessful, the litigation served to underline a political injustice and breach of trust that had been a source of grievance among Aboriginal people in WA for nearly a century. **Peter W. Johnston**

See also: Aboriginal administration; Aboriginal legislation; Constitution; Noonkanbah dispute; Pilbara strike

Further reading: N. Green. 'From princes to paupers: the struggle for control of Aborigines in Western Australia 1887–1898', *Early Days*, 11, 4 (1998); P. W. Johnston, 'The repeals of Section 70 of the Western Australian Constitution Act 1889: Aborigines and Governmental breach of trust', *University of Western Australia Law Review*, 318, 19 (1989)

Seismology The three largest known earthquakes in Australia since written records have been kept all occurred in Western Australia. The magnitude 7.2 earthquake 400 kilometres offshore from Exmouth in 1906 was the largest. It caused no damage but was felt throughout the state. The magnitude 6.9 earthquake in 1941 near Meeberrie Homestead, 600 kilometres north-north-east of Perth, is the largest known onshore earthquake in Australia, and caused non-structural damage in Perth suburbs. The magnitude 6.8 earthquake near Meckering in 1968 caused a dramatic arcuate rupturing of the Earth's crust extending for some 35 kilometres. It was the most damaging earthquake yet in WA, destroying Meckering and causing several severe injuries but no deaths. Damage extended as far as Perth. The surface faulting folded the railway lines and cut the main road linking east and west.

Dating back to 1849, local newspapers chronicled the many small, and infrequent large, earthquakes felt in WA. These and other sources, together with recordings of earthquakes after 1901, were used by the late Ian Everingham to compile a comprehensive list of earthquakes in 1968 that he and others have used to evaluate earthquake risk in the state, showing it to be the most earthquake-prone state in the Commonwealth.

After many years of lobbying by the Australasian Association for the Advancement of Science, the WA state government installed the first of four seismographs of the inaugural national network at Bickley Observatory in 1901. In 1959 the Commonwealth government installed a seismograph donated by the US Carnegie Institute at Mundaring, east of Perth, after which the Bickley Observatory seismograph was closed following a dispute between state and Commonwealth governments over who should pay for its operation. These were analogue instruments writing onto paper records, now stored in archives and rapidly deteriorating.

The seismograph network expanded slowly after 1959, and by 2006 the Commonwealth government had a network of twelve broadband seismographs in WA, their digital output telemetered to Geoscience Australia in Canberra by telephone lines. From this central office, rapid earthquake and tsunami alerts are issued to emergency services in all states and territories.

Seismographs are very sensitive and are saturated within the first tenth of a second of an earthquake, rendering them useless, so another two less sensitive recorders have been installed in metropolitan Perth to measure the strong ground-shaking during the course of the earthquake. A seismograph installed by a US consortium, the Incorporated Research Institutes for Seismology, near Marble Bar, is part of an international network of stations dedicated to detecting underground nuclear explosions worldwide. As of 2006, three enthusiastic amateurs operate seismographs near Perth and contribute useful additional data where seismographs are so sparse.

Continuing research focuses on updating earthquake hazard estimates, especially variations in shaking due to differing foundations in metropolitan Perth, and on detecting evidence in the landscape of large pre-historical earthquakes dating back a million years or so.
Kevin McCue

See also: Geological history; Geology
Further reading: I. B. Everingham and L. Tilbury, 'Information on Western Australian earthquakes 1849–1960', *Journal of the Royal Society of Western Australia*, 55, 3 (1972)

Service clubs and organisations existing for the benefit of the community have contributed greatly to Western Australian society. Although several mechanics' institutes had been established in earlier decades, it was only during the 1890s that sufficient economic and demographic conditions existed for the development of service clubs, which began at Perth with the formation of branches of the Salvation Army (1891) and the Women's Christian Temperance Union (1892). As the population continued to climb, many new organisations were established on the model of those existing elsewhere, through various local initiatives:

the 'Fresh Air League' in the late 1890s, which organised coastal holidays for children growing up on the goldfields; the YMCA in 1907, after earlier attempts had failed; the Young Australia League and the Boy Scouts in 1908; the Women's Service Guild in 1909, and, through the Guild, the Girl Guides in Perth in 1915.

The social upheavals of the First World War heralded a second phase of development, beginning with the opening of a Red Cross office in Perth in 1914. The first branches of the nationwide Returned Soldiers' and Sailors' Imperial League, a forerunner to the RSL, were established during 1916. In 1917 the uniquely West Australian 'Ugly Men's Association' was formed to raise funds for 'patriotic purposes' and the welfare of ex-servicemen, initially through the holding of light-hearted 'ugly person' competitions. The ongoing consequences of the war also led, in 1928, to creation of a state chapter of Legacy, an organisation devoted to the care of ex-servicemen and war widows and their dependants.

The Country Women's Association, formed in 1924 to provide social contact and practical assistance for women, added considerably to the social fabric of rural districts. During 1933 the Lottery Commission was created: the charter under which lotteries subsequently operated ever since in Western Australia has provided valuable funding to the government for the improvement of public health, and to numerous public bodies promoting the arts, sports and recreation, and community development. In 1935 the Royal Flying Doctor Service began operating in the remote Kimberley and Pilbara regions.

Developments after the Second World War varied from an expansion in the number of established community services like surf lifesaving and bush fire-fighting, to the creation of the State Emergency Service in 1961 out of the Civil Defence Organisation formed during the war years, and the appearance of new organisations: the Good Neighbour Council in 1949 to assist with the assimilation of

postwar migrants with non-British backgrounds; the Save Children Fund and Guide Dogs for the Blind during the 1950s; and in 1961 the first volunteer Sea Rescue group at Mandurah.

The postwar decades also witnessed the steady growth in local activities of clubs such as Rotary (established in WA in 1926), Apex (1935), Lions (1964) and the Jaycees (1976). Through a longstanding tradition of altruism the work of these organisations has often gone unnoticed, but some achievements do stand out: Rotary's opening gift of the Peter Pan statute in Queen's Gardens, East Perth, in 1926, and the same group's role in supporting the formation of a Medical School at The University of Western Australia (UWA) in 1950; the work of the Lions Save-Sight Foundation, and the group's support for the Chair of Ophthalmology at UWA in 1974; Apex Western Australia's role in spearheading the club's push into South-East Asia; and Jaycees' support for the Whaling Museum at Albany. During the 1990s the Variety Club's annual 'bash' through outback districts added a new dimension to the work of service clubs in this state. **Joseph Christensen**

See also: Country Women's Association; Good Neighbour Council; Guides Western Australia; Mechanics' institutes; Red Cross; Returned and Services League; Royal Flying Doctor Service; Salvation Army; Scouting; Ugly Men's Association; Women's Christian Temperance Union; Women's Service Guild; Young Australia League; Young Men's Christian Association (YMCA); Young Women's Christian Association (YWCA)
Further reading: T. Austen, *Something worthwhile: a history of the Perth YMCA* (1992); V. M. Branson, *The golden years of Apex, 1956–1981* (1981); J. Chappell, *A brief history of Legacy in Western Australia, 1928–1988* (1989); P. Henningham, *Seventy five years of service: Rotary in Australia, Papua New Guinea and Solomon Islands 1921–1996* (1996)

Sesquicentenary The Sesquicentenary celebrations in 1979 were held to mark the 150th anniversary of white settlement in Western Australia. They began with a New Year's Eve concert on the Perth Esplanade, with Rolf Harris leading the entertainment supported by various other Western Australian entertainers such as Fat Cat. Other events followed throughout the year, ranging from the City of Stirling Pigeon Race to the Parmelia Yacht Race and culminating with the Miss Universe competition. As well as an opportunity for public entertainment, premier Sir Charles Court also used the Sesquicentenary to encourage further social and economic development across the state and in Perth. Some effort was also made to educate Western Australians on the past 150 years. The Sesquicentenary Series was published with this goal in mind. This series of books covered a number of historical topics, from Aborigines of the West to Westralian Portraits. *An Atlas of Human Endeavour* was given to all secondary students in the state. However, apart from Marion Aveling's edited collection *Westralian Voices* and C. T. Stannage's *People of Perth*, none of the official events or publications dealt with more contentious issues of settlement, especially with regard to Aboriginal people, and they presented a largely sanitised view of the past and a celebratory view of the future. Throughout the year, various groups attempted to undermine these representations of the state's history. For example, at the New Year's Eve concert, Aboriginal didgeridoo player Ken Colbung presented a land claims document to the governor, asserting Aboriginal land rights. This was just one of several events that sought to acknowledge less attractive aspects of the past 150 years of Western Australian history. However, official events mainly ignored these responses and the Sesquicentenary is largely remembered as a year of celebration for most Western Australians. **Shreemen Prabhakaran**

See also: Aboriginal culture and society; Foundation and early settlement; Historiography, Western Australia
Further reading: G. C. Bolton, 'Way 79: Whose Celebration?', in L. Layman and T. Stannage (eds), *Celebrations in Western Australian History: Studies in WA History*, 10 (1989); J. Gregory, *City of light: a history of Perth since the 1950s* (2003)

Seventh-day Adventists are a Christian group whose distinctive beliefs and practices emerged from prophetic movements that developed in the United States during the latter part of the nineteenth century. They draw their teachings from the Bible, look to the second coming or 'advent' of Christ, and observe Saturday as the Sabbath day of rest and worship. John Stockton, an early Australian convert to the denomination, introduced Seventh-day Adventism (SDA) into Western Australia when he visited the West in 1890. During his stay he also helped form the Social Purity Association to develop anti-smoking campaigns and establish a refuge home for single mothers. Other missionaries arrived and traversed the goldfields and the South-West, selling both health and religious books. Later evangelists, who preached to the public from marquees, became an important factor in church outreach programs. Initially Seventh-day Adventists worshipped in private homes. The first SDA church building was erected on Margaret Hollingsworth's Bookara farm. Quarried from local stone, it was dedicated in March 1905.

The church initially disseminated its teachings through the distribution and sale of literature, focusing on Bible readings and health. A health-food store was opened in Newcastle Street in 1898. Other early interests included hydrotherapy treatments and the opening of a laundry offering employment for destitute people. Education has always been an important element for the church, with two SDA primary schools founded and in operation by 1906. Carmel Adventist College (initially called the Darling Range School) was founded in 1906 as a boarding school and continues to provide high school education. The school's kitchen was also used commercially to produce health food for sale to the public. A Sanitarium Health Food factory was later developed on the same property.

The church initiated welfare work in the 1940s by providing assistance to needy people in Perth and rural towns. In the 1950s an Aboriginal school was established at Karalundi Station near Meekatharra. A similar station school was later established at Wiluna. The church closed both stations in the mid 1970s, insisting, contrary to government policy, on total abstinence from alcohol on the properties. Church membership in WA has increased from 885 members in 1911 to 5,510 members in 2006. **Milton Hook and Keryn Clark**

See also: Spirituality and religion
Further reading: N. Clapham (ed.), *Seventh-day Adventists in the South Pacific 1885–1985* (1985)

Sex work (prostitution) can be defined as the exchange of sexual labour for material gain. The overwhelming majority of sex workers have historically been women with male clientele, although the industry also includes male and transgender workers with mostly male clients. The primary stimulus to the growth of sex work is concentrations of male employment; the major restriction on the industry's location is law-enforcement policy.

In Western Australia the most dramatic increases in prostitution occurred during the 1890s, when the economic boom attracted thousands of male migrants from other Australian colonies and overseas. The gender imbalance was particularly acute on the goldfields, which created strong demand for sex workers in Kalgoorlie. The earliest prostitutes on the goldfields were primarily French and

Japanese women who migrated as part of international syndicates.

Prostitution itself is not illegal in WA, yet the *Police Act* (1892) and the *Criminal Code* prohibit activities such as street soliciting and operating brothels. Despite this official prohibition, police historically used the unofficial Containment Policy to control the number and location of brothels. This unwritten policy granted criminal immunity to female brothel owners and workers who registered with police; workers also submitted to compulsory medical examinations, for which the British *Contagious Diseases Acts* (1864–69) provided precedent. However, efforts to introduce similar legislation in WA during the early 1900s did not succeed; unofficial regulation prevailed.

Containment was introduced in Kalgoorlie in 1902. As early as the 1960s, the policy also required workers to reside in the Hay Street brothels and banned them from visiting the town's pubs, restaurants and cinemas. This social apartheid policy continued until 1995, when police abandoned containment in Kalgoorlie.

There is no evidence of similar social restrictions on workers in Perth, where containment operated from 1915 to 1958, and from 1982 to 1995. Police closed the Roe Street brothels in 1958 to make way for industrial land uses in Northbridge, and subsequent police crackdowns ensured that the industry did not reorganise in a highly visible form.

Following the murder of brothel madam Shirley Finn in 1975, the Royal Commission into prostitution and the administration of the law in 1976 and the Dixon Report in 1982, containment was reintroduced in Perth, with criminal immunity extended to twelve brothels and four escort agencies. Yet the sex industry continued to expand, and by 1995 most businesses were operating outside containment. Police authorities abandoned containment in Perth, citing limited resources and the difficulties involved in regulating illegal activities.

The sex industry in WA includes brothels, massage parlours, escort agencies, private operators and streetwalkers. Brothels and escort agencies generally claim fifty per cent of a worker's earnings. In Perth, a small number of streetwalkers continue to operate in the inner-city suburbs of North Perth and Highgate despite police crackdowns. In regional WA, private operators have historically dominated the sex trade, with the most significant concentrations in the state's North-West, where there are now a small number of brothels. In Kalgoorlie, the three remaining Hay Street brothels are now a popular tourist attraction.

Although there is no official health policy, compulsory condom use has been voluntarily enforced by sex workers since 1987, in response to a recommendation made by the Health Department of WA. Australian Labor Party proposals to officially regulate the sex industry in WA have failed in state parliament. **Elaine McKewon**

See also: HIV–AIDS; Venereal disease; Work, paid; Workers
Further reading: R. Frances, 'The history of female prostitution in Australia', in R. Perkins, G. Prestage, R. Sharp and F. Lovejoy (eds), *Sex work & sex workers in Australia* (1994); E. McKewon, 'The historical geography of prostitution in Perth, Western Australia', *Australian Geographer*, 34, 3 (2003); E. McKewon, *The scarlet mile: a social history of prostitution in Kalgoorlie, 1894–2004* (2005)

Sexual assault in early colonial Western Australia incorporated a number of indictable offences, including 'rape' and 'carnal knowledge', usually involving female complainants and male defendants. Under the *Criminal Law Consolidation Ordinance* of 1865, clause 3 stated that 'whosoever shall be convicted of the crime of Rape shall suffer death as a felon'.

In the 1880s, women's organisations lobbied to better protect girls by having the

age of consent raised from ten to sixteen. Western Australian legislators argued that girls matured early in the colonies and they raised the age instead to fourteen in the *Protection of Women and Girls Act* of 1892. It was increased to sixteen in 1900. The effect was an immediate increase in the number of older carnal knowledge complainants. Unlike rape complainants, these girls were not required to prove resistance or the absence of consent. Nevertheless, WA courts found it difficult to let go of the suspicion that even the youngest of girls might incite sexual advances and the issue of respectability retained its potency.

In 1902 the *Criminal Code* consolidated all laws in WA applying to criminal behaviour, including those concerning the sexual abuse of girls (carnal knowledge) under section 22 and sexual abuse (rape) of women under section 32. The term 'carnal knowledge' was used in reference to crimes of varying severity against girls under ten, under thirteen and under sixteen years of age. Sexual assault (rape) within marriage has also been one of the grounds for divorce from 1863.

For these particular offences, the courts demanded corroboration; defendants could not be convicted of a sexual offence on uncorroborated testimony. Yet sexual assaults were generally secretive and medical evidence inconclusive, especially in cases where there was no sign of physical force or where the complainant had previously had sexual intercourse. The criminal justice system, at all stages, asked whether complainants could or should be believed. Complainants' behaviour (both prior to and during the assault) was scrutinised and their respectability assessed. Evidence of prior sexual experience or even sexual knowledge in the case of young girls told against them. So too did evidence of alcohol consumption or streetwalking at night. In cases involving Aboriginal complainants, a lack of respectability was almost universally assumed. Cultural assumptions regarding Aboriginal

prostitution and dependence on alcohol were damning.

In the early twentieth century sexual assault complainants were also hampered by a narrowing definition of corroboration. In practice, the WA courts have continued to demand independent corroboration in sexual assault cases, and this has impacted not only on the conviction rates for these offences but also on the likelihood of victims reporting sexual assaults. These particular assaults are among the most under-reported. This undoubtedly owes much to victims' awareness that both their credibility and their corroboration will be aggressively challenged in court. Perhaps many of those who choose not to report sexual assault (especially Aboriginal victims) doubt the sincerity of the criminal justice system in its attempts to offer them protection or redress.

From the early 1970s the development of the feminist movement led to a greater awareness in the community of the prevalence of sexual assault, leading to the establishment of Rape Crisis Centres and to various government and private initiatives aimed at preventing sexual assault both within and outside the family. In 1992 the *Acts Amendment (Sexual Offences) Act*, which amended the *Criminal Code* and various other Acts, introduced more complexity into the identification of criminal behaviour and sexual offences. **Jill Bavin-Mizzi**

See also: Capital punishment; Gender; Incest; Marriage and divorce; Women's refuges
Further reading: C. Backhouse, 'Skewering the Credibility of Women: A Reappraisal of Corroboration in Australian Legal History', *University of Western Australia Law Review*, 29, 1 (2000); J. Bavin-Mizzi, *Ravished: sexual violence in Victorian Australia* (1995); S. M. Murray, *More than refuge: changing responses to domestic violence* (2002); K. Saunders and R. Evans (eds), *Gender relations in Australia: domination and negotiation* (1992)

Shark Bay was the first part of Western Australia encountered and named by European peoples, after Dirk Hartog discovered and landed upon the island that still bears his name on 25 October 1616. Later explorers included Vlamingh (1697), Dampier (1699), who named the area 'Sharks Bay', St Allouarn (1772), Baudin and Hamelin (1801 and 1803), and Freycinet (1818). Permanent white settlement began during the 1860s, when pearlers and pastoralists moved into the region. Pearling thrived, and the township of Denham was formally proclaimed in 1898. By the early 1900s professional fishing was also under way, and when prawn and scallop trawling commenced in the 1960s Shark Bay developed into the state's premier commercial fishery. Solar-salt production began at Useless Loop in 1965. Tourism had emerged as an important industry by the 1970s, prompting a resurgence of interest in the unique assemblage of flora and fauna first noticed by the earliest naturalist-explorers. Following the completion of a sealed road into Denham in 1985, visitor numbers rose sharply, with recreational fishing and the famous dolphins of Monkey Mia proving popular attractions. In 1991 the scientific and heritage value of the region's wildlife, landscapes, ecological systems, and the stromatolites of Hamelin Pool, led to Shark Bay becoming the first Western Australian site listed on the World Heritage Register. **Joseph Christensen**

See also: British maritime exploration; Dutch maritime exploration; Fishing, commercial; French maritime exploration; Gascoyne; Heritage; Marine environment; Marine zoology; Salt; Tourism

Further reading: H. Edwards, *Shark Bay through four centuries, 1616 to 2000* (1999)

Sharks Western Australia faces the Indian Ocean, the Timor Sea, and the Southern Ocean on three sides and has 12,500 kilometres of coastline, representing a distance of more than all the shores of Queensland, New South Wales and Victoria combined. The marine environments range from the mangrove swamps and crocodile estuaries of the tropical north, through the sub-tropics and temperate seas, to the cool southern waters of the Great Australian Bight, where the great white shark is the apex predator.

In these waters, south to north, swim most of the 350 or so species of sharks known to science, and perhaps some yet unknown species that will be identified in future years. All the big names are there, including *Carcharodon carcharias*, the great white shark; *Galeocerdo cuvier*, the tiger shark; *Carcharhinus leucas*, the bull shark, or bronze whaler; *Isurus oxyrinchus*, the mako; *Prionace glauca*, the blue shark; *Sphyrna mokarran*, the great hammerhead; and of course the largest shark of all, *Rhiniodon typus*, the famous whale shark of the Ningaloo Reef.

Humans naturally see sharks in terms of danger to themselves. Indeed, sharks and crocodiles are the only marine predators that kill and eat humans. In fact, deaths from shark attacks have occurred far less often in WA than on the east coast. This is perhaps because the shallows of the coastal shelf fringing the Indian Ocean near the major centres of population extend much further out to sea. There have been only two fatal attacks at Perth's metropolitan beaches in more than one hundred years, with seventy-five years between incidents. Simeon Ettelson was killed by a tiger shark at Cottesloe beach in 1925, and Ken Crew was fatally mauled by a great white at North Cottesloe, only a kilometre distant, in 2000. There have actually been more attacks in the Swan River, where whaler sharks breed upstream, than off the sea beaches, and in 1923 Charles Robinson, a thirteen-year-old Scotch College student, was fatally injured near the school rowing shed in Freshwater Bay. There was a series of attacks in the Burswood area of the river in the 1970s,

with some significant injuries but fortunately no fatalities.

Divers have also suffered attacks through the years. Bob Bartle was killed by a massive great white at Jurien Bay while practising for a spearfishing competition in 1967. Broome pearl diver Richard Bisley, 27, was taken by a tiger shark while working in Roebuck Bay in 1994. In the following year, at the other end of the state, abalone diver David Weir died in a ferocious great white attack at Honeymoon Island on the south coast. Surfers, too, have become occasional victims. In July 2004 high-profile surfer Bradley Smith, 29, was attacked at Gracetown's 'Left-hander' reef. Though two other surfers, Cameron Rowe, 16, and Mitch Campbell, 17, heroically entered the water to bring the badly injured man ashore, he was dead by the time they reached the beach. Onlookers said two sharks were involved.

Shark-attack deaths have always caused strong public reaction. From the 1890s river baths were built to provide safe swimming areas. Discussion about erecting a shark-proof fence to screen off the bathing area at Cottes-loe began in 1933, but it was not until 1936 that construction began on a wire netting enclosure attached to concrete piles. Just as the project was nearing completion, a storm damaged the pylons and all that remained was the north-west pylon. Further damaged in a storm in 1981, then rebuilt, the famous pylon remains a landmark and a memorial to Simeon Ettelson.

Fear of sharks gave great impetus to the surf lifesaving movement, which erected watchtowers at popular beaches to spot sharks and warn swimmers by siren. Today there are aerial patrols at weekends to give the public confidence.

Once we cross the white strip of beach and enter the water we are in a world where our rules do not apply. Sharks were swimming in Devonian seas 350 million years ago, before the dinosaurs, and while the first four-legged amphibians were venturing onto the land. They have been in their present form for at least 30 million years, long before the first ape-like ancestors of our own kind, *Homo sapiens*, appeared. In short, sharks were here first and have a right for some respect. Meanwhile, we need to balance against the occasional shark attack the fact that Australians eat thousands of kilos of commercial shark catch annually, mostly in 'fish and chips'. **Hugh Edwards**

See also: Beaches; Coasts; Marine environment; Surf lifesaving; Surfing; Swimming baths
Further reading: H. Edwards, *Shark: the shadow below* (1997)

Shinju Matsuri is the Festival of the Pearl, a term coined in 1970 for a ten-day festival aimed at regenerating Broome's declining pearl-industry-based economy. Like Broome's pearling industry itself, the festival has its origins in the nineteenth century. By 1883 Broome had a diverse immigrant diving community and many festivals, but it was the dominant Chinese and Japanese ancestor-worship festivals commemorating the dead that underpinned the modern Shinju Matsuri. The Chinese festivals, normally celebrated in April, were moved to August or September in Broome, to coincide with the full moon and to include the pearl divers who were busy diving in April. Nearly a century later, in 1969, to capture tourist interest, prominent Broome businessman Alex Reid encouraged the amalgamation of Broome's various festivals and a committee determined the Japanese name of Shinju Matsuri. The inaugural festival, 15–22 August 1970, was commensurate with the lunar calendar and harvest of the pearl, highlighting the roles of the Chinese and Japanese pearlers in the industry's history. In 1997 the first Aboriginal patron, Don McKenzie, presided over the festival, which also commemorates the role of Indigenous divers, male and female, in the early industry.

Commercialism of the Matsuri, deviating from the original festival's theme of cultural meaning and commemoration of the pearl divers' tragedies, has contributed to festival controversy. But by 2003 commercial support included over one hundred businesses, sporting and social institutions. **Lesley J. Crowe-Delaney**

See also: Aboriginal labour; Asian immigrants; Broome; Multiculturalism; Pearling
Further reading: A. Atkinson (ed.), *Asian Immigrants to Western Australia 1829–1901* (1988); I. D. Clarke, *Sharing history: a sense for all Australians of a shared ownership of their history* (1994)

Shipwreck survivors and castaways The earliest Europeans in Western Australia were survivors from shipwrecks or castaways inadvertently left behind or deliberately stranded ashore. One of the best-known instances was in 1629 when the VOC ship *Batavia* was wrecked in the Abrolhos group. Of approximately 245 survivors, 125 were murdered during a mutiny. Two of the mutineers, Jan Pelgrom and Wouter Loos, were marooned on the mainland as punishment, becoming the first known European inhabitants of Australia. In most cases the fate of castaways and survivors remains unclear. Timothy Vasse, for example, was lost from the French vessel *Geographe* in 1801 near Wonnerup, and nearly seventy men who survived the wreck of the *Vergulde Draeck* in 1656 were last seen waiting ashore near Moore River. Many survivors interacted with Aboriginal populations. In several documented cases, castaways only survived as a result of being cared for by Aboriginal groups over extended periods, such as the boys from the *Stefano* wrecked in 1875 near Point Cloates. The effect that contact with shipwreck survivors had on Aboriginal cultures and languages has been questioned. The impact of these encounters may have been negligible other than in artworks and Aboriginal oral histories and possibly in the transmission of European diseases. **Martin Gibbs**

See also: Dutch maritime exploration; Shipwrecks
Further reading: M. Dash, *Batavia's graveyard* (2002); H. Drake-Brockman, *Voyage To Disaster* ([1963] 2006); H. Edwards, *Islands of Angry Ghosts* (1966); G. Henderson, *Unfinished voyages: Western Australian shipwrecks, 1622–1850* (1980); G. Henderson and K. Henderson, *Unfinished voyages: Western Australian Shipwrecks, 1851–1880* (1988); Gustave Rathe, *The wreck of the barque* Stefano *off the North West Cape of Australia in 1875* (1992)

Shipwrecks It is an ill wind that blows no body any good. Western Australia's many shipwrecks, each a great misfortune at the time of their loss, today represent a valuable aspect of the state's maritime heritage.

WA has a coastline of 12,500 kilometres with few safe ports. The state's recent development and its isolation mean that prior to the age of steam power there were comparatively few shipping movements and hence comparatively few shipping casualties. Ironically, that isolation has been part of the reason for the intense public interest in Western Australia's shipwrecks.

The first vessel known to have been lost on the coast was the English East India Company's ship *Trial*, which struck the Trial Rocks to the north of the Montebello Islands in May 1622. Ninety-three people perished in the wreck. Since then, well over one thousand vessels have been wrecked or sustained severe damage on and off the WA coast.

The Portuguese China-trader *Correo da Azia* was wrecked near North-West Cape in 1816, when European settlement was confined to the east coast of Australia, and the west was a land of mystery. The 1829 establishment of the Swan River colony brought a

need for a local fleet, but with the low volume of trade most of the coastal traders were tiny cutters like the *Cumberland*, wrecked at Point Peron in 1834, which coped poorly with our reefs and strong onshore winds. The Austrian barque *Stefano* was wrecked in 1875 in the same area as the *Correo da Azia*. Two surviving young sailors wandered with dying companions and then with Aboriginal tribes until May 1876, when they met up with pearlers of the cutter *Jessie*, who took them back to Fremantle.

The prominence given to shipwrecks in museums in this state could easily give the misleading impression that there were more shipwrecks here than on other coasts. However, historically the number of wrecks in any area is better correlated with the number and volume of shipping movements rather than hazards such as reefs and onshore winds, so that the largest concentrations of shipwrecks are to be found in the vicinity of major ports such as Melbourne and Sydney, rather than along the WA coastline.

Shipwrecks have significance assigned to them for various reasons. The earliest shipwrecks gave traders cause to avoid the coast, but prompted others to further examination: the loss of the *Vergulde Draeck* in 1656 was partly responsible for de Vlamingh's survey of the coast, including the Swan River, in 1696. The *Batavia* wreck in 1629 led to a bloody mutiny, but more recently inspired the writing of the *Batavia* opera.

The discoveries of the *Vergulde Draeck* and *Batavia* wrecks in 1963 led quickly to protective legislation, facilitating the development of research and exhibition programs at the Western Australian Maritime Museum. Today, state waters are covered by the *Maritime Archaeology Act* (1973) and commonwealth waters by the *Historic Shipwrecks Act* (1976).

The Western Australian Maritime Museum interprets shipwrecks in the Shipwreck Galleries in Fremantle. On exhibit are the results of archaeological work on wrecks including the *Trial* (1622), *Batavia* (1629), *Vergulde Draeck* (1656), *Zuytdorp* (1712), *Zeewyk* (1727), *Rapid* (1811), *James Matthews* (1841), *Eglinton* (1852) and SS *Xantho* (1872). **Graeme Henderson**

See also: Archaeology; British maritime exploration; Dutch maritime exploration; French maritime exploration; Shipwreck survivors and castaways; Vlamingh's journey; Western Australian Museum

Further Reading: L. Cairns and G. Henderson, *Unfinished voyages: Western Australian shipwrecks, 1881–1900* (1995); G. Henderson, *Unfinished voyages: Western Australian shipwrecks, 1622–1850* (1980); G. Henderson and K. Henderson, *Unfinished voyages: Western Australian shipwrecks, 1851–1880* (1988)

Shooting, pistol and rifle In the nineteenth century, rifle shooting as a sport developed informally as the colony of WA grew. However, it did not earn government sanction until 1901 in a climate of political concern about the adequacy of Western Australia's defence. Premier John Forrest was instrumental in convincing the Department of Defence of the need to establish a basic defence strategy involving civilian rifle clubs working with volunteers. The inaugural meeting of the National Rifle Association of Western Australia was held on 12 July 1901. The organisation was renamed in 1965 to its current title of the West Australian Rifle Association. In 2005 the association comprised seventy clubs, with a total of about 1,100 members.

Because of the concentration of people in the goldfields and their high level of rifle-shooting activity, a Union of Rifle Clubs District was formed in that area before coastal clubs joined together. This created the situation where, between 1902 and 1909, WA conducted two King's Prize meetings each year, the King's (or Queen's) Prize, awarded annually, being rifle shooting's most prestigious award. Kalgoorlie

and Karrakatta were generally the venues chosen. Subsequently, each district held alternate meetings until 1921 when it was finally decided that the event would hence-forth be held at the Swanbourne Rifle Range. The event was changed to the Queen's Prize in 1952. Libby Felton, a twenty-nine-year-old Subiaco shooter, became the first woman in Australia to win a Queen's Prize when she took out the WA event in 1974. She repeated the feat by winning the Queensland Queen's Prize the following year.

In 1954 a group of shooting enthusiasts formed the Western Australian Clay Target Association at Geraldton. In 2005 the association consisted of thirty clubs and 905 members.

The Western Australian Pistol Association, which was formed in 1959, consisted in 2005 of forty clubs and 850 members. Pistol shooter Ben Sandstrom is the state's most successful marksman, having won two gold, two silver and two bronze medals at Com-monwealth Games between 1986 and 1994. He has also represented Australia at three Olympic Games. **David Marsh**

See also: Sport history

Silver Chain The Silver Chain Nursing Association was founded in 1905, reportedly from an idea suggested by rabbit-proof-fence boundary rider Arthur Grundy. The original focus was to care for sick and neglected chil-dren but this soon changed to an emphasis on the needs of the indigent aged. Organised and publicised by Muriel Chase, writing for the *Western Mail*'s Children's Corner, subscrip-tions were sought from the public, initially from children who became Silver Links.

The first Silver Chain district nurse in Perth began her rounds on a bicycle in 1907. More districts were gradually formed until the whole metropolitan area was served by district nurses. Local committees of volun-teers supported Silver Chain work in financial

The Lady Novar Bush Nursing Hostel opened at Wyalkatchem, 4 October 1922. This was the first hostel built by the Bush Nursing Trust, later Silver Chain Nursing Association. Courtesy West Australian *(PP6542)*

and other ways. In 1916 the first Silver Chain Cottage Home for old people was opened in Highgate, Perth. A Kalgoorlie branch was formed in 1921, although country work did not expand until the incorporation of the Bush Nursing Trust into Silver Chain in 1944. In addition to the Cottage Homes, since 1945 Silver Chain has opened five more residential facilities, both low and high care. Three are in the country. Government funding was not sought or accepted until 1948.

One of Silver Chain's most popular fund-raising activities was the annual Flower Day, first held in Perth in the spring of 1950. The tradition continued for many years. Initially, buildings were decorated with elaborate floral displays, but this had changed by the late fif-ties and a Flower Show coinciding with an appeal was held instead. Money was primarily raised by the sale of badges. Country areas also participated, and some still use Flower Day as a motif for their annual appeal.

In 2008 Silver Chain is a large corporate entity serving rural and urban areas in a variety of ways, yet it remains a charitable organisation whose primary aim is still to assist people in need to live in the commu-nity. **Jean Chetkovich**

See also: Aged care; Bush Nursing Society; Nursing; Volunteers; Welfare

Further reading: J. Chetkovich and D. Gare, *A chain of care: a history of the Silver Chain Nursing Association, 1905–2005* (2005); N. Stewart, *Little but great: saga of the Silver Chain (1905–1965)* (1965)

Sir Charles Gairdner Hospital was established in 1958 as the Perth Chest Hospital, when eighty patients with tuberculosis were transferred from the Wooroloo Sanatorium. It stands on land that was once the original Brownes Dairy, and which was subsequently donated to the Crown by The University of Western Australia (UWA) just after the Second World War. The land is a 28-hectare Class A Reserve, which must be used for health and health-related purposes, and is now managed by the Queen Elizabeth II Medical Centre Trust.

With the decline in tuberculosis, the hospital began admitting a broader range of patients and is now a large, progressive, fully accredited teaching hospital. In 1963 the hospital was renamed in honour of Sir Charles Henry Gairdner (Governor of WA, 1951–63).

The site has been substantially developed since 1958, with major building works during the 1970s. G Block, which houses all the site's acute clinical services, was opened in 1982. All clinical specialties are available with the exceptions of complex burns, paediatrics, obstetrics and gynaecology. The hospital has a distinguished record in patient care, teaching and research and is closely associated with the nearby UWA as well as Curtin, Edith Cowan and Notre Dame universities.

In 2005 the hospital admitted 63,000 patients, treated 40,000 in its Emergency Department, and provided 300,000 outpatient and outreach occasions of service. More than 600 beds were available, and the hospital employed the equivalent of 2,800 full-time staff. **Sue Morey**

See also: Medical practice; Nursing; Public health; Tuberculosis

Further reading: C. Polizzotto, *A fair sized town: Sir Charles Gairdner Hospital and its history, 1958–1988* (1988)

Sister Kate's Children's Home was established by Sister Kate Clutterbuck, from the Anglican Order of the Sisters of the Church, in Queen's Park in 1934. It grew out of Parkerville Children's Home, which had been run by Sister Kate from 1903 to 1934. This was supported by A. O. Neville, the Chief Protector of Aborigines for Western Australia, who gave both approval and financial assistance for a home for 'quarter caste' children. While the humanitarian nature of the home was publicly promoted, in reality the placement of lighter-coloured children was aimed at furthering a social engineering policy, sometimes referred to as 'biological absorption', which meant to develop a White Australia. Consequently, children were largely interned on the basis of colour, not need. From the point of view of a parent who had eight children interned in the home, this was a very destructive experience for Aboriginal families. 'Being taken away and put in homes means a lot has been lost with family and culture. White ways put on black ways.' A child's experiences in care varied greatly, depending on the compassion and commitment of the staff at the time. In 1994 management passed to the Uniting Church of Australia. An Aboriginal director, Dean Collard, was appointed, and the home began to provide services for children within an Aboriginal cultural context. **Tjalaminu Mia and Sally Morgan**

See also: Children; Orphanages; Stolen generations

Further reading: A. Haebich, *Broken circles: fragmenting indigenous families 1800–2000* (2000); S. Morgan and T. Mia (eds), *Echoes of the past: Sister Kate's Home revisited* (2002); V. Whittington, *Sister Kate: a life dedicated to children in need of care* (1999)

Skull Creek Laverton incident Skull Creek, near Laverton, was the scene of a confrontation between police and Aboriginal people, which later became the subject of a Royal Commission. On 5 January 1975 a convoy of several vehicles carrying forty men, fifteen women and twenty-one children en route from Alice Springs to Wiluna was intercepted by police just outside the mining town of Laverton, 250 kilometres from Kalgoorlie in the Eastern Goldfields. Most able-bodied men in the convoy were arrested and twenty-seven were charged with public order offences, though they were later unconditionally released during a Court of Petty Sessions hearing on 7 January. At the time, large numbers of Aboriginal people were travelling through the area to Wiluna for Law business and to take part in other customary practices.

While press reports initially supported the police action, concerns about the incident grew after some of the Aboriginal people involved were able to tell their story. Public opinion forced an internal police inquiry and a subsequent re-examination of the case by a study group led by a stipendiary magistrate. Finally, a Royal Commission was appointed on 23 August 1975 to investigate the incident more fully. After 101 days sitting in Perth, Laverton, Kalgoorlie and Warburton, the Laverton Royal Commission 1975–76 found that police had failed to justify the arrests at Skull Creek. While the Commission acknowledged there had been one or more incidents of violence during the clash, it considered that the great majority of the arrests had been without cause and that some Aboriginal people may have been 'roughly handled'.

The Skull Creek incident has come to be regarded as a significant event in the often troubled history of relations between Aboriginal people and police in WA. As well as suggesting changes to police training and the employment of Aboriginal police and aides, the Royal Commission made a series of recommendations relating to communications, transport, alcohol, and permanent and temporary accommodation for Aboriginal people. Its report also stimulated greater respect for the part of customary law and practice in Aboriginal life. Later discussion of the incident has encouraged reconsideration of the media's role in such events. **Mathew Trinca**

See also: Customary law; Royal Commissions and Inquiries, Indigenous
Further reading: Law Reform Commission, *The Recognition of Aboriginal Customary Laws,* 31 (1986); Laverton Royal Commission, *Report of the Laverton Royal Commission 1975–76* (1976); H. Trinca and M. Trinca, 'Writing the past: journalism and history', *Limina*, 6 (2000)

Soccer (Association Football) Organised soccer (Association Football) kicked off in Australia on Saturday 14 August 1880, when the newly formed Wanderers played King's School in a social match on Parramatta Common in Sydney. As in the eastern colonies, early soccer in Western Australia was played sporadically and without any system of management, by gold-miners in the goldfields and visiting ship crews, comprising mostly Scots and Englishmen.

Perth's early interest in soccer can be traced back to April 1892 as a result of reaction to letters in newspapers. The sport was coupled with rugby union through the English Association and Rugby Union Football Club but a struggle for pitches saw the soccer component lasting little more than a year.

Organised soccer proved more successful from May 1896, when letters to *The West Australian* newspaper from Frederick and Archibald Burt, eldest sons of Septimus Burt, the first attorney general of WA, encouraged the founding of the British Football Association of WA. Four clubs comprising around eighty playing members kicked off the first metropolitan league competition, with the Fremantle Wanderers club becoming the inaugural league champions.

Although the First World War significantly reduced participant numbers, teams consisting of predominantly English and Scottish members continued to play their way through the Great War and Depression, until a transformation in migration intake after the Second World War altered the game both as a participatory and spectator sport. The code's subsequent growth during the 1950s led to problems of administration and accommodation; and during the 1970s especially, the occasional presence of politically incensed supporters at games involving ethnically backed clubs gave the sport an adverse reputation.

Bona fide representative matches started in March 1902 when a Western Australian select played a touring English cricket test eleven at Fremantle Oval. The earliest interstate tour took place in 1905 when a group of players from the Junior Association visited Adelaide. A senior squad first headed east four years later, touring NSW, Victoria and South Australia. State games continued to be the principal first-class option, and a senior state representative side made a first venture into Asia in 1967. In 1994 a corporate-run club called Perth Kangaroos easily won the Singapore S-League title in its one and only season. In contrast to the ethnic background of most leading eastern states' clubs, the first mainstream WA soccer team to succeed nationally was the privately owned Perth Glory Soccer Club (formed in 1995), where attendances at Perth Oval, East Perth, averaged 12,500 for National Soccer League (NSL) games. Perth Glory won consecutive NSL championships in 2002–03 and 2003–04, before a completely revamped competition known as the A-League commenced the following year, comprising eight corporately sponsored clubs.

Perth's first organised women's league competition started with six sides in 1972 under the West Australian Girls Soccer Association. Participation numbers strengthened rapidly ahead of the senior state team winning the 1975 and 1978 national championships.

The local women's game was further enhanced in October 2004 when the Western Waves made its inaugural appearance in the Women's National Soccer League.

In 2002 the six organisations involved in the management, control and delivery of state soccer (specifically semi-professionals, amateurs, women, juniors, coaches and referees), under the facilitation of the WA government's Department of Sport and Recreation, formed a Soccer Forum, with the objective of creating a single unified body. Consequently, Football West (otherwise known as the Western Australian Soccer Association Ltd) ensued in July 2004. The name Football West arose as a result of the affiliated national body (Australian Soccer Association) altering its title to Football Federation of Australia. The shift to 'football' from January 2005 was made to align Australia with other countries' terminology. An Australian Bureau of Statistics survey in 2005–06 listed soccer as the most played of the football codes nationally, but behind Australian Rules in WA. **Richard Kreider**

See also: Australian Rules; Migrant ethnic associations
Further reading: R. Kreider, *A soccer century: a chronicle of Western Australian soccer from 1896–1996* (1996); R. Kreider, *The Soccerites* (2005)

Social change In the 1830s and 1840s, the first decades of British settlement in Western Australia, colonial society was rigidly stratified. At the top were the governor, colonial secretary, commandant and other government officials, together with larger investors who, on the strength of the capital they brought with them, became major landowners. This elite also included some prominent merchants, who would not have been socially acceptable at the highest levels in England at this time. In most cases they also had large landholdings so that the traditional distinction between landed gentry and those tainted by

commercial interests did not so readily apply. In any case, in such a small and isolated community the bonds between those with substantial property of any kind outweighed their differences. Almost every other arrival came as a servant, brought out at individual employers' expense, for the Swan River was a colony dependent on private capital with no government-assisted immigration.

Although living conditions were makeshift in the early years, the leading colonists made a conscious effort to maintain the social life normal to their status in England. The first governor, James Stirling, and his young wife Ellen, set a lead by holding Government House levees and balls almost from the beginning, in part to keep up the spirits of the colony's leaders at a time when there was not much to be cheerful about and also to create an impression that the familiar social order was still in place.

We know from surviving letters that the ball the Stirlings gave in September 1831 was a very opulent occasion. The main rooms of the then Government House were brightly decorated and illuminated; supper, served at midnight and again at 4 a.m., was washed down with champagne; and the company danced until 6 a.m. to music provided by a military band, part of the detachment of the 63rd Regiment there to guard the colony. Some of the 180 guests wore their service uniform and decorations; other men were in frock coats and knee-breeches; while the women were decked out in fashionable gowns and rarely worn jewellery.

Occasions such as this were the summit of colonial life, but the elite regularly attended formal dinners or drawing-room concerts. They also took part in regattas, cricket matches, riverside picnics and race meetings. Attending church services had a social dimension as well as a religious one, and the Agricultural Society, founded in 1831, was another meeting place for gentlemen. At other times they worked very hard, in the case of landowners, male and female, often doing physical work alongside their servants, which in the home country would have been unthinkable.

For labourers and tradesmen the opportunities for social life were constrained by the hours of work and a six-day working week. Their social life was shaped and limited by a marked gender imbalance of roughly four men for every woman in the first few years, with a disproportionate number of women being from the elite. It was also shaped by the youthfulness of the community, with the average age in the early years being around thirty. So the favoured leisure-time pursuits were those of young men, especially drinking in inns and taverns, which sold imported spirits and, from 1837, locally brewed beer. On the dozen or so public holidays a year, active sports were favoured and kangaroo hunting was popular. As in other eras, horseracing was a social activity that brought all levels of society together.

The Aboriginal population was effectively a second, parallel society throughout this period. Aboriginal people were not accepted as equals by white colonists and, with rare exceptions, did not participate in the social life described here. One such exception was the first organised observance in 1835 of the holiday on 1 June to commemorate the arrival of the British settlers. Stirling organised a gala day which included an exhibition of Aboriginal spear-throwing and numerous footracing competitions in which whites ran for coins, Aborigines for bread. The culminating event saw a Canning River Aborigine, Migo, defeat the fastest white runner by a stride. Aboriginal participation in Foundation Day activities continued for a few years but then ceased as black–white relations deteriorated. Over time, the effect of European settlement (at this stage largely unintended) was to bring about the gradual destruction of traditional Aboriginal society, a pattern repeated again and again as the frontier extended out from Perth.

Growth of the white population was very slow, with the total still less than six thousand after two decades, although the

gender balance gradually improved. Then in 1850 came the period of convict transportation, with almost ten thousand convicts arriving, all male and aged over eighteen years. Consequently, as late as 1858 there were still two men for every woman in the colony. Thereafter, assisted female migration reduced the imbalance, but throughout the nineteenth century WA remained a very masculine society, especially in rural areas, with many individuals denied the opportunity for a normal home and social life. This was especially true of the convicts, many of whom lived lonely and isolated lives even after they had been given their ticket-of-leave.

Attempts to maintain a clear-cut social order broke down over time, despite stringent Master and Servant legislation. Some colonists found they could not afford to pay their indentured servants and had to allow them to become independent. In any case the deference of one class to another, traditional in British society, was eroded by the distinctly un-British physical and economic environment. The arrival of convicts initially led to a tightening of social controls, but in time some of them also prospered and were absorbed into colonial society.

The mid to late nineteenth century brought a dispersal of population, with farmers and pastoralists gradually moving further from Perth in the quest for good land. Establishing a farm was hard for all concerned, leaving little or no time for social life. Families were also isolated by distance. Visitors were always welcomed and the occasional visit to the nearest small country town a highlight, often occasioned by a church social, a ploughing competition or an agricultural show. Amusements, among the family or when neighbours got together, were self-generated. Singing around the piano, card games, cribbage and draughts were popular, as were shooting parties or picnics.

In the 1870s and 1880s, settlement led by pearlers and pastoralists extended into the North-West, where the extensive use of Asian labour in the pearling industry created multi-racial coastal towns such as Cossack and later Broome quite unlike anywhere else in the colony.

Towards the end of the nineteenth century, WA was engulfed by gold rushes, which boosted the white population from 35,000 in 1885 to 250,000 in 1905 and extended the imbalance between women and men. The gold rushes were undoubtedly the biggest single agent of social change in WA history, making colonial society significantly larger, more complex, more prosperous, and even more Australian, the bulk of the new arrivals coming from the other Australian colonies. Perth was transformed from an overgrown village into a thriving town with new and more permanent buildings. At first there was a gulf between those who had been in the colony before gold—the 'sandgropers'— and the 't'othersider' newcomers, but this dichotomy did not last, and in the process the social prestige and political power of the old colonial families was eroded and social mobility enhanced.

Social life on the goldfields was frenetic while the boom lasted. There were twenty-six hotels in Coolgardie alone, not to mention billiard rooms and brothels. All the main goldfields towns were lively cosmopolitan centres with a rich and highly organised social life that included churches, lodges, friendly societies, trade unions, and musical and other cultural activities as well as a plethora of sports. Moreover, the wealth generated by gold, together with improving sea links to the rest of the world, meant that entertainers came in increasing numbers to WA—vaudevillians, musicians, circus performers, actors, and professional runners and cyclists.

In the first half of the twentieth century population growth and economic development slowed. Two world wars and an economic depression took their toll. Clearing land for wheat-growing and later for dairying, the main forms of economic development in the period, was hard work with a delayed pay-off.

The standard of living was relatively static, even in the best periods, and conspicuous spending on social activities was unusual and frowned upon.

Perth came to be ringed by suburbs, which also spiked out from the centre along tram lines to Subiaco and Highgate and the railway line to Midland. The suburb became the focus of most social activity, with Sunday schools, church-based youth groups, tennis-club dances, lodge meetings and socials, fetes and sporting contests, and cricket and football competitions organised between suburban teams. Men would socialise with their mates over drinks at a hotel but hotel bars were not the place for respectable women, even after lounge bars were introduced in the 1920s. Most family entertaining occurred in the home, usually in the evening with cards or music, followed by supper. Weekend picnics at the South Perth Zoo, established in 1898, were also popular family occasions. In the city there were a few cafés or tea rooms, patronised by women who had gone into the city to shop or meet friends. The dining room in Boans department store was for generations a lunchtime mecca for those out for a day in town. Restaurants, however, were rare, and facilities for evening dining were limited to a few expensive hotels beyond the reach of the majority.

Two occasions which led most families to spend on entertaining their relatives and friends were weddings and twenty-first birthday parties, sometimes for modest groups in a city hotel, on other occasions with a hired band but self-catering in a local hall. For the socially ambitious there were also debutante balls, when young women in long white dresses would be presented to a dignitary such as the governor, the archbishop or the Grand Master of the Masonic Order.

A significant innovation in this era was the growing popularity of the beach as a site of social interaction. In the nineteenth century riverside picnics had been very fashionable, but by the 1920s Cottesloe beach had become a magnet for the young, and less restrictive mores allowed mixed ocean bathing, although in very modest costumes. An even bigger change was the arrival of the movies, and by the late 1920s the average Western Australian was attending the cinema at least once a fortnight. The era of self-entertainment was drawing to a close. Outside the metropolitan area there were regular picture shows in the larger country towns and less regular ones in tents in smaller centres, but otherwise social life in the bush was still much as it had been for earlier generations. The arrival of radio broadcasting in the 1920s and 1930s was another major cultural shift, although its social impact was less marked than that of the movies.

White and Aboriginal society were even farther apart by the mid twentieth century. Aboriginal people in remoter areas were mainly confined to reserves after 1905, and those Aboriginal or part-Aboriginal families of the South-West who had begun to integrate with mainstream society were removed to closed settlements after 1915. Between 1927 and 1948 Aboriginal people were not permitted to enter Perth without a pass. Official control of Aboriginal marriages and the forced removal of Aboriginal children from their parents were policies designed to disrupt Aboriginal social life, although, ironically, segregation helped to preserve some aspects of traditional culture.

The 1939–45 war had a marked impact on the lives of Western Australians. Those men not called up for military service were often required to change jobs to meet manpower priorities; some were banished to internment camps; all were subject to rationing, blackouts and shortages. Some of these things had long-term effects on society, but when peace was restored, social life for the most part returned to prewar norms. Similarly, the thousands of American servicemen who spent time in Perth during the war, with more money in their pockets than locals were accustomed to, made only a fleeting impact.

These servicemen were not responsible for the Americanisation of society that came in later decades.

Postwar WA nevertheless witnessed huge changes. The 1950s ushered in a sustained period of prosperity that, with a few hiccups, was still in force in the early twenty-first century. Prosperity led to a shorter working day and working week and enabled almost all families to acquire the host of labour-saving and comfort-increasing devices that came onto the market, giving them more time for social life. Prosperity also enabled governments to facilitate universal secondary education and a vast expansion of tertiary education, powerful engines of change that encouraged social mobility and blurred traditional class distinctions.

The 1950s also brought the full flowering of a massive immigration scheme that in time made WA, like other states, a multicultural rather than an Anglo-Celtic society. To a degree, the many ethnic sub-communities created by large-scale immigration each enjoyed their own social life, but over time they interacted with each other and with the original white Australian community to create new patterns of social behaviour.

Another important trend, which may be traced back to the 1950s but which gathered momentum in the 1960s and 1970s, was the relaxation of laws governing the consumption of alcohol, gambling and sexual behaviour, in part a reflection of a decline in religious conviction and church attendance. Such changes as the lowering of the age at which alcohol could be bought, extension of hotel opening hours, and allowing restaurants and cafés to sell alcohol, naturally impacted on patterns of social life. Policy changes such as these, together with a rising standard of living, in turn brought a proliferation of restaurants, cafés and fast-food outlets, and a tendency for young people, and even families, to eat out more frequently and to socialise with their friends at such venues rather than in the home.

The arrival of television in 1959 struck a final, decisive blow to the tradition of self-entertainment; now professional entertainment was available even in the home, and for a while there seemed no reason even to go out. Suburban cinemas were turned into supermarkets and city cinemas fell upon hard times for several decades before the tradition of a night out in the city eventually reasserted itself.

The 1970s brought an end to the belief that a woman's place was in the home, with longstanding barriers to the employment of married women being removed and effective steps towards equal pay for women doing similar work to men, followed in the 1980s by sex discrimination legislation. By the end of the twentieth century it had become customary for both partners in a marriage to be in the paid workforce; indeed, rising lifestyle expectations made this almost essential, creating a much-enhanced demand for childcare facilities.

Parallel with this were legislative changes that facilitated a large increase in the number of marriages ending in divorce, and societal changes, which led to many couples living together without marrying. Where the enduring nuclear family had once predominated there were now multiple marriages and 'blended' families, de facto relationships of varying length, and a growing number of one-parent families, all part of a looser social fabric.

Of all the consumer goods made affordable by postwar prosperity, none had more social impact than the motor car, which quickly became ubiquitous. Although Perth's suburbs sprawled for miles in three directions by the end of the twentieth century the suburb had declined as a social centre because car ownership gave people the freedom to move round the metropolitan area, or into the country, for different social activities. Suburbs continued to be class-differentiated, and some much more desirable than others, but they were in the process of becoming little more than dormitories.

More informality at almost all levels of society was another feature of the late twentieth century, illustrated by the decline of silver-service dining and debutante balls. Contrariwise, a social phenomenon of the same period was the mushrooming of lavish secondary school balls, aping the ways of yesteryear but participated in by almost the entire school-leaving age cohort rather than an elite.

Education, high wages, car ownership and greater moral permissiveness had a particularly dramatic impact on the social life of the young, who were free as never before. Hundreds of scantily dressed youngsters of both sexes drinking in a hotel beer-garden on a Sunday afternoon, to the accompaniment of loud rock music—unthinkable a generation or two earlier—became a common sight at the turn of the twenty-first century.

The gap between city or suburban life and country life narrowed considerably in the second half of the twentieth century. Although the tyranny of the seasons could never be totally overcome, prosperity liberated farmers to enjoy many of the same social freedoms as city-dwellers and the isolation of distance was mitigated by the motor vehicle and, to a degree, air transport. Residents of at least the older areas of rural settlement came to enjoy the best of both worlds, with the ability to get up to Perth for important social occasions but still with some of the pleasures of a small local community. On the other hand, a steady population drift from the country to the city, and a decline in rural incomes and the role of agriculture in the economy, led eventually to the contraction of country towns and the services and social opportunities they could offer.

For Aboriginal Western Australians also, the second half of the twentieth century was a time of social change, though with mixed results. Restrictions on Aboriginal freedom of movement and voting and drinking rights had all been lifted by the beginning of the 1970s. Aboriginal people were now counted in the census and from a legal perspective were no different from other Western Australians. The morale of many Aborigines was lifted by the outcome of the Mabo case and the success of some communities in achieving land rights. More Aboriginal people began to find regular work in the agricultural and mining sectors, and some integrated into mainstream multicultural society, enjoying an urban way of life little or no different from that of other Western Australians. In the South-West, and in Broome, there was a late twentieth century upsurge of Aboriginal music, art, dance and theatre, with a broad appeal to the community as a whole. But for other Aborigines, especially in the far North-West, poverty, ill-health, alcoholism and family abuse remained endemic. In some cases overwhelming social problems led Aboriginal leaders to establish remote communities, a voluntary return to a social separation that earlier had been forced upon them. **Brian de Garis**

See also: Aboriginal culture and society; Children; Citizenship; Citizenship, Aboriginal; Class; Communications; Convicts; Economy; Foundation and early settlement; Gender; Law; Marriage and divorce; Migration; Multiculturalism; Politics and government; Public health; Transport; Welfare; Work, paid
Further Reading: G. C. Bolton, *Land of Vision and Mirage: Western Australia since 1826* (2008); F. K. Crowley, *Australia's western third* (1960); C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Social work The first social services department in WA was established at Royal Perth Hospital (RPH) in 1928 by a nurse, Aimee Eakins. By the early 1930s nurses from both Fremantle and the Children's Hospital were attached to RPH for some months to gain the necessary experience to establish similar departments in these hospitals. In 1935–36 Eakins completed an intensive six-month course at the Victorian Institute of Almoners and obtained a diploma (AAHA) which enabled

her to use the formal title of almoner. Eakins was the only professional social worker in WA prior to the Second World War. Norma Parker, a Western Australian, studied social work in the USA, 1929–31, but when she returned to Perth in 1932 at the height of the Depression she found there was no employment available and moved east, founding the Almoners' Department at St Vincent's Hospital, Melbourne.

During the Second World War the Red Cross helped pave the way for the use of trained professionals, instituting scholarships for social work and undertaking a recruiting drive in the UK and the US for experienced social workers. By 1945 there were seven energetic and visionary female social workers employed in WA, and they formed the WA Branch of the Australian Association of Social Workers (AASW). One of its objectives was to help in the eventual promotion of a course of social studies at The University of Western Australia. This dream was realised with the initial intake of six students in 1965. In 1966 the state government announced that a second school of social work was to be set up in 1967 at WAIT (now Curtin University of Technology). A third program specialising in rural social work was established at Edith Cowan University in 1996.

Social workers are now employed in a wide range of statutory and non-statutory welfare, medical, and community-service agencies. There is no available record of the number of qualified social workers in WA, but in 2004 the AASW had 747 members (606 female, 141 male) located in diverse agencies throughout the state. **Rae Lindsay**

See also: Nursing; Red Cross
Further reading: F. Crawford and S. Leitmann, 'The midwifery of power? Reflections on the development of professional social work in Western Australia', *Australian social work*, 54, 3 (2001); J. Gardner, *Looking back: reflections on 25 years, 1965 to 1990* (1990); J. Gardner, 'Tribute to fifty years of social work', *The West Australian social worker* (September 1996)

Softball commenced in Western Australia after the Second World War, replacing cricket, surf lifesaving and baseball as the preferred summer team sport for women. The WA Women's Softball Association was established in 1949. From two teams in 1946 the Association grew to fifty teams by 1951. The state team first competed in the national championships in 1951. WA hosted and won the national carnival in 1952. A finalist almost every year till 1963 (except in 1954 and 1962), victories in 1953, 1955 and 1959 confirmed Western Australia's reputation as a formidable force in Australian women's softball. WA stimulated growth in junior (under 16) women's softball by hosting the first Under 16 Girls' National Championship in 1970, and donated the perpetual trophy, the Esther Deason Shield, named in honour of the first Australian president.

Men supported the women's game as coaches and umpires but it was not until the mid 1970s that men began to play softball seriously. Beginning with the inaugural national championship in 1984, the WA men's softball team claimed five consecutive national championships. The Under 19 Men's National Championship was inaugurated in 1989 and the trophy was named in honour of Western Australian Nox Bailey, who had been one of the driving forces behind the development of men's softball Australia-wide.

Nina Menner (née Malatzky) is Western Australia's most capped softball player, having been a member of seven Australian women's teams, including the 1965 team that won the First Women's World Championship. Australia first entered a team in the Seventh Men's World Championship in 1988. Nine of the eighteen players, including captain Lindsay Anderson, were from WA.

As the sport grew, the challenge was to find large, easily accessible playing spaces. Langley Park served from 1946 until the mid 1970s when competitions moved to Yokine Reserve. In 1991 the Association, in partnership with the City of Stirling and the

Department of Sport and Recreation, opened the WA State Softball Centre at Mirrabooka, providing international-standard facilities and permanent headquarters for statewide administration of the sport. **Lynn Embrey**

See also: Sport history
Further reading: L. Embrey, *Batter up! The history of softball in Australia* (1995); L. Embrey, 'Laying out the bases: softball in Western Australia 1946–49', in E. Jaggard and J. Ryan (eds), *Perspectives on sport and society: Studies in WA history*, 18 (1997)

South-eastern Europeans who have migrated to Western Australia encompass Slovenes, Croatians, Bosnians and Herzegovinians, Serbs and Montenegrins, Macedonians, Albanians and Bulgarians. Except Albanians and Bulgarians, these national groups did not have independent states until 1991 but lived together within the Kingdom of Yugoslavia (1918–41) and later the Socialist Federal Republic of Yugoslavia (1945–91). Except Albanians, these are south Slavic groups, often referred to in the past as 'Slavs' in Australia. Nowadays they have independent states in the area historically defined as 'the Balkans'. In 2004 the westernmost Slovenes joined the European Union.

Over the past century, with immigration peaks in the 1920s and 1950s–1970s, south-eastern Europe was the third-largest source of immigration to Australia from continental Europe, behind Italy and Greece. The earliest large immigration of south-eastern Europeans to Australia happened in the second half of the 1920s, when the US limited its intake of these nationalities by introducing national origin quotas in 1921 and 1924. Many south-eastern European migrants who came to WA during this period worked in the hardest labouring jobs as woodcutters, miners and farmhands in country areas; others cultivated market gardens in the metropolitan area. Young men usually migrated first, helped by

relatives in a chain-migration pattern, and brought their fiancées, wives or families later. This pattern changed in the 1980s, when the Australian preference for immigration of families was established and low-skilled immigration stopped. In January 1934, during a period of economic depression, south-eastern Europeans, alongside Italians, became the target of riots against immigrant workers in Kalgoorlie.

The next large wave of south-eastern European immigration occurred after the Second World War, as part of the intake of 'Displaced Persons'. The peak years of 'economic' immigration of south-eastern Europeans were 1969–71, when more than 50,000 Yugoslavs arrived in Australia in only two years, following the signing of a migration agreement between Australia and Yugoslavia. The most recent wave migrated in the 1980s and 1990s, escaping the collapse of communism and the 'war for Yugoslav succession' and included thousands of refugees, mainly from Bosnia–Herzegovina. This immigrant cohort was generally much better skilled than the previous one, which had consisted mainly of labourers from rural backgrounds.

Among south-eastern Europeans in WA, Croatians, Macedonians, Serbs and, since the 1990s, Bosnians, form migrant communities much larger than those of Slovenes, Montenegrins, Albanians and Bulgarians. The complex ethnic mix and history of their region of origin have influenced the identities, loyalties and animosities of immigrants from this area and the way diaspora politics is conducted within and among their communities. Ethnic complexities limit the value of the census counts of these groups. While the 1996 census separately recorded for the first time the nationalities that made up the former Yugoslavia, it retained the category 'former Yugoslavia not further defined', which implied that individual nationalities were understated. The 2001 Australian census counted 5,190 Croatia-born persons in WA (total 51,909 in Australia); 4,580 born

in the Federal Republic of Yugoslavia (Serbia and Montenegro) (total 55,310); 316 born in Slovenia (total 6,685); 2,650 born in Bosnia–Herzegovina (total 23,910); 3,250 born in the former Yugoslav Republic of Macedonia (FYROM) (total 43,490); 88 born in Albania (total 1,450); and 208 persons born in Bulgaria (total 2,571). However, 7,527 persons across Australia stated they spoke Albanian at home, suggesting that many ethnic Albanians come from either Kosovo (Yugoslavia) or FYROM, or are second-generation migrants. Because of the lower recent intakes (with the exception of Bosnians, most of whom have arrived since the mid 1990s) these communities are considerably older than the general population.

The 2001 census question on ancestry recorded 12,972 Croatians, 10,739 Serbs, 7,686 Macedonians, 2,060 Bosnians, 701 Slovenes, 405 Bulgarians, 479 Albanians and 147 Montenegrins in WA, indicating the presence of the second and subsequent generations, who as a rule speak English at home (again, with the exception of the recently arrived Bosnians). Although the current intake of south-eastern Europeans is well below its 1960s–1970s numbers, it is steady because of the difficult economic and political situation in most Balkan states. The exception is Slovenia, with immigration very low in the last twenty years. The second generation, the children of the large postwar and 1960s–1970s waves of south-eastern Europeans, have experienced considerable social mobility and the occupational structure within these communities has been rapidly changing from the 'factory fodder' postwar demographic towards socioeconomic profiles similar to the general population. The largest numbers of people from the ex-Yugoslav communities live in the local government areas of Stirling, Cockburn, Swan and Wanneroo. Croatians, Serbs, Macedonians and Bosnians have active community lives around their clubs, welfare and information centres, churches and cultural and sport associations.

Each of these four community groups has five weekly programs at the local multicultural Radio 6EBA-FM, which reflects the strength of ethnic community life. **Val Colic-Peisker**

See also: Croatians; Migrant ethnic associations; Migration; Multiculturalism; Race riots; Refugees

Further reading: Australian Bureau of Statistics, *Perth, a social atlas* (1997); J. Jupp (ed.), *The Australian people: an encyclopaedia of the nation, its people and their origins* (2001); R. Wilding and F. Tilbury (eds), *A changing people: diverse contributions to the state of Western Australia* (2004)

Southern Africans The great majority of migrants to Western Australia from sub-Saharan Africa are from the Republic of South Africa, although significant numbers of Zimbabweans have also settled in this state. Between 1980 and 2000 South Africa ranked among the top ten source countries of migration to Australia. By 2003 it had become one of the top five source countries, after New Zealand, the United Kingdom, China and India. South Africans comprise a significant minority of Western Australia's migrant population. While most migrants opt to live in NSW, almost 25 per cent of South African migrants choose WA. In 2006 there were 22,049 South Africa-born residents in WA, nearly double the number of 1996. Most migrants are relatively wealthy, in South African terms. The majority are white, although all the country's population groups are represented. Some black South Africans were admitted to Australia on humanitarian grounds during the apartheid era. Many South African settlers live in Perth's northern suburbs, especially Stirling and Joondalup.

There were few South African settlers in WA until the 1960s. Thereafter, violence and economic and political instability during the apartheid era led to an increase. Some migrants were opposed to white supremacy, including small numbers of political dissidents

and conscripts who refused to serve in the South African military. During the 1980s many others were attracted to WA when apartheid repression and South Africa's international isolation resulted in a stagnant economy. White South Africans who chose to move to Australia during the apartheid era were often derided at home and accused of 'taking the chicken run' and 'packing for Perth'.

Despite the demise of apartheid and the advent of democracy in 1994, the number of South African settlers has increased markedly in the past decade. Many recent migrants have identified high levels of violent crime at home as a major factor in their decision to settle in Perth; others (mostly white) feel that they have no part to play in the 'new South Africa'. By and large, South African migrants aspire to integrate with the wider Australian community, although there are a number of visible community organisations that cater to expatriates, the South African Club of WA being the most prominent.

The pattern of migration to WA from Zimbabwe resembles that of South Africa. Large numbers of whites left Southern Rhodesia in the 1970s in the run-up to independence. There were fewer migrants during the 1980s and early 1990s, however, political and economic instability in the past decade has seen large numbers of (mostly white) Zimbabweans move to WA. The 2001 census recorded 11,610 Zimbabwe-born persons in Australia, an increase of 30 per cent from 1996. One third of these migrants (3,900 persons) lived in WA, making this state the most popular destination for Zimbabwean settlers. **Jeremy Martens**

See also: Jews; Migrant ethnic associations; Migration; Refugees
Further reading: J. Davidson, 'Packing for Perth and other considerations: white English-speaking South African attitudes to Australia', *Meanjin*, 59, 3 (2000); J. Jupp (ed.). *The Australian people: an encyclopedia of the nation, its people and their origins* (2001)

South-West The South-West region comprises an area of 23,970 square kilometres in the south-west corner of the state. The home of the Nyoongar for thousands of years, the South-West had already experienced white intrusion before prominent figures in the Swan River colony claimed large land grants in the 1830s and left it to small groups to establish settlements. On a coastline bearing many names from previous French exploration, Americans were already pursuing whales, wrecking ships and trading with Indigenous people: they would continue for several decades to provide an important lifeline and source of otherwise unobtainable goods for white settlers. In the Leschenault district, destined to be the major population centre, the largest land claimant was Governor James Stirling, who granted 320 acres to the Scott family. Another was C. R. Prinsep, whose horse-breeding venture introduced the Little family as managers and a number of Indian 'coolies' as workers in 1838. Limited progress came only after the London-based Western Australian Company bought 190,000 acres from Stirling and another large claimant. The company's venture at nearby Australind in 1840–41 failed, but provided the first substantial group of settlers.

Further south at Augusta, a handful of settlers remained in uncomfortable isolation under Resident Magistrate John Molloy. From there the Bussell family moved north to the Vasse, inland from the southern shores of Geographe Bay, where settlers had shot eight Aborigines in response to the spearing of George Layman. In 1840 the first official building in the small township that eventually bore the Bussell name was a police station. But with chief constable Edward Hester and an Aboriginal assistant the only police presence from the Murray to Augusta, settlers continued to take the law into their own hands. Although resistance could not halt white settlement, the absorption of some Aborigines into menial jobs combined with disputes over speared cattle and petty theft to

make race relations a concern in most areas before European disease debilitated and killed large numbers of the Indigenous population.

Some of the newcomers at either end of Geographe Bay tried to emulate the Americans without catching enough whales to sustain a local industry. Plans for the eventually important timber industry and the more specialised export of sandalwood to Asia proved premature. By the mid 1840s it was also clear that deficient soil and hostile climate made hopes of commercial crops unrealistic. As the colony turned to salvation through transportation from 1850, convict labour provided welcome public works, including a jetty at Bunbury and roads and bridges to improve communications between fledgling settlements. The social impact of the newcomers was less beneficial. While most public works were undertaken by closely supervised chain gangs, the ticket-of-leavers, who passed through the Bunbury hiring depot to work on local farms throughout the South-West, were an unsettling new element, with crime rates rising significantly.

Although convict ancestry was no barrier to eventual respectability, the new regime provided a quicker route to power for Marshall Waller Clifton, already influential through his leadership of the Australind group and the marriage of his daughter Louisa to Leschen-ault Resident Magistrate George Eliot. Using his appointment to the Legislative Council in 1851, Clifton installed family and close associates in government posts created by the convict regime to establish a network of political influence throughout the South-West that extended after his death in 1861.

Even though transportation had helped, economic progress in the South-West remained uneven in the 1870s. Red rust blight afflicted wheat; sheep and dairy farming delivered only modest production; fruit crops remained experimental; and it would be 1888 before Greenbushes tin and Collie coal were seriously exploited. Meanwhile, some prominent families, such as the Blythes from

Nannup and Roses from Burekup, sustained their South-West interests by establishing sheep and cattle stations in the West Kimberley in the 1880s and 1890s.

Exports of sandalwood reached a new peak in 1870 and hardwood timber production steadily increased in the 1880s. But bullock-team haulage over rutted roads hampered responses to national and international demand, with exports moving slowly through small outports—Hamelin, Rockingham, Quindalup, Karridale and Lockeville (Wonnerup). Meanwhile, Bunbury's storm-tossed harbour was so dangerous that the Busselton jetty, built in 1853 and with many subsequent extensions, threatened to be a more attractive major long-term outlet.

The Collie coalfields were producing over 100,000 tons by 1900; a surge of tin production saw Greenbushes declared a town soon afterwards; and there was a brief gold rush at Donnybrook in 1899. The sustained productivity of the real goldfields allowed government expenditure to improve the Bunbury harbour and build railways linking Busselton, Collie and Bridgetown to Bunbury and Perth. The railways were especially important for the timber industry, which had become a major factor in the economy from 1880, with the empire established at Karridale by M. C. Davies especially prominent. But improved transportation meant the small outports declined and mill towns emerged adjacent to the railways connecting them to Fremantle and Bunbury. Some timber had been cut in the karri and jarrah forests around Manjimup since the first settler, Thomas Muir, arrived in 1856, but the advent of the railway in 1911 saw the industry and town grow significantly. Some 31 kilometres away the government established sawmills at Pemberton in 1913. The Brockman family had been the most prominent among a small number of farmer-landowners in an area named after Pemberton Walcott, its first settler in 1862. It remained a small private town run by the state sawmills until gazetted as an official townsite in 1925.

By then the whole South-West was entering a period of prolonged economic and social crisis.

After the disruption of international trade in the First World War created widespread hardship, the contraction of markets in 1921 ended a brief revival in the timber industry. Despite record wheat crops in 1928 and 1930, the South-West was struggling well before the conventional starting point of the worldwide Great Depression in 1929. The failure of vaunted group and soldier settler schemes was a major factor in the South-West's intensifying social misery in the 1920s and 1930s. In Manjimup the rigours of land clearing drove inexperienced, ill-equipped group settlers into debt and despair in the early 1920s. Northcliffe was created by group settlement in the same period, while Walpole just to its south owed its origins in 1930 to a land settlement scheme designed to help families hit by the Depression.

By 1932 timber exports were the lowest for forty years and coal output from Collie was in steep decline. But there were some hopeful omens. Wheat was suffering a contraction of markets rather than productivity because the region's most fundamental agricultural problem was now being overcome with the extensive use of artificial fertilisers. And despite the human trauma involved, government and private investment in the 1920s agricultural schemes resulted in an enormous expansion of a dairy industry, meeting state demand and making its first exports by 1932. While the gold industry helped a slow statewide recovery, improvement in the South-West was also due to development projects undertaken by state and federal governments to provide relief for roughly 5,000. But although the stimulus of renewed war further tempered the worst economic effects of the Depression, the region emerged with continuing socioeconomic problems potentially dividing the agricultural community from a new generation of politicians seeing secondary industry as the key to the future. There was, however, nothing new about a lack of regional consensus.

The economic demands and grievances of timber, coal and agriculture were never uniform. Relative proximity to Perth, the high profile of regional politicians in state governments and the importance of timber and coal to the state's economy had elicited beneficial public works expenditure. Yet expensive harbour works had not ensured general recognition of Bunbury's claims to be regional capital, since railways made it as easy to transport primary produce to Fremantle. Decades of political rhetoric about regional development reflected local and sectional demands and electioneering promises rather than any overall plan. The post–Second World War era displayed these tendencies more strongly than ever.

In the 1960s and 1970s development innovations included the coal-fired Muja power station near Collie in 1966, an $11,000,000 woodchip export industry at Manjimup in 1968, and Alcoa's alumina refinery at Pinjarra. Yet amid much decentralisation rhetoric the region ranked so low among the priorities of the governments of Sir David Brand and Sir Charles Court that the South-West Regional Administration was under the ministry of the North-West. While private enterprise built extensive railways for the mining industry of the North-West, many branches of the government railway network were being closed in the South-West. Brian Burke's Labor government in the 1980s refocused on the South-West without overcoming the fundamental problem of competing local agendas. For a few years its new South West Development Authority (SWDA) strove to make Bunbury an 'alternative capital'. Yet, in the face of criticism from the wider region, by 1986 SWDA's focus had shifted to a host of smaller community projects throughout the South-West.

That reorientation was welcome not only to the recipients of largesse but also to a

growing conservation movement able to find some common ground with new economic forces. Many centres followed the example of the Margaret River wine industry, which grew from nothing in the 1960s to establish an international reputation, and most developed the standards of accommodation and food retailing required of a modern tourist industry. Yet conservation could also be a disruptive force. More important than the momentary controversy following the bombing of the woodchip berth at Bunbury in 1978 was the successful political lobbying that drastically restricted exploitation of old-growth forests, threatening jobs and the very future of towns such as Manjimup and Pemberton. The smallest and most populous of Western Australia's nine official regions outside the metropolitan area, the South-West had not overcome its historic sectional differences.

The region today consists of twelve local government areas including Bunbury (City), Harvey, Collie, Dardanup, Capel, Busselton, Augusta–Margaret River, Nannup, Manjimup, Bridgetown–Greenbushes, Boyup Brook and Donnybrook–Balingup. Economic activities include agriculture and horticulture; timber and forest products; mineral extraction, processing and manufacturing; retailing; tourism; construction; other manufacturing; service industries; and fishing and aquaculture. **Anthony J. Barker**

See also: Augusta; Bunbury; Busselton; Caves, tourism; Coal; Convict labour; Dairying; Group settlement; Harvey; Mandurah; Manjimup; Margaret River; Peel region; Pinjarra; Ports; Railways; Rivers of the South-West; Timber industry; Tourism; Waroona; Whaling; Wine

Further reading: A. J. Barker and M. Laurie, *Excellent connections: a history of Bunbury, Western Australia, 1836–1990* (1991); A. Kerr, *The south-west region of Western Australia* (1965); L. R. Marchant, *France australe* (1988)

Speech pathology (therapy), the assessment and management of communication and swallowing problems, commenced in this state at Princess Margaret Hospital in 1945. In 1954 the state's first professional group was formed, the Association of Speech Therapists of Western Australia. Due to the lack of local graduates, Western Australia's needs grew faster than services could be provided. After lobbying by Audrey Baker and Joy Milbourne, the Commissioner of Public Health agreed to four bursaries a year being provided for an initial period of three years, to provide financial assistance for awardees to train in Melbourne. The first graduates of the bursary scheme returned to WA in 1964 and helped begin a slow increase in the number of trained speech therapists to service the community. With considerable public, professional and political pressure for more speech therapists, a submission was made to start a training school in WA. Speech and Hearing Science, the first four-year course in Australia, commenced at the WA Institute of Technology (later Curtin University of Technology) in 1975 with Ann Zubrick as the senior lecturer. Over time, the course has changed from a highly prescriptive curriculum to one that provides a rigorous scientific education.

Speech 'therapist' and speech 'pathologist' are considered synonymous, with the name change occurring in 1975. Western Australian speech pathologists have been instrumental in providing initiatives in the clinical and theoretical areas of speech pathology. The early pioneering work in language and literacy in WA was groundbreaking, as was research into the genetic bases of speech and language disorders. The other areas in which innovative contributions have been made include: early intervention groups; family residential camps in country areas to demonstrate management of communication problems; twin studies; establishing language units for children who have significant language handicaps; dysfunctional language in the adult population; right hemisphere

contribution to language problems; and intervention to manage swallowing problems in adults and children. **Robin Branchi**

See also: Curtin University of Technology; Princess Margaret Hospital; Public health
Further reading: A. McDougall, 'Speech pathology and its professional association in Australia', *Acquiring knowledge in speech, language and hearing*, 8, 2 (2006)

Spiritualism is a movement, loosely based on Christian theology, which emerged in mid nineteenth century USA. Its principal tenets are a belief in the continuity of the individual personality after death, and the capacity for the living to communicate with the dead. The first spiritualist association in Australia was founded in Victoria in 1870. There has been little research into spiritualism in Western Australia, but it is known that a visiting Professor Davis held séances in the Perth Town Hall in December 1896 and that a monthly journal was published by The Truth Centre, a spiritualist organisation in Perth, between 1912 and 1913.

Spiritualism achieved its highest popularity immediately after the First World War, particularly in Britain, where the families of dead soldiers were anxious to find meaning in their losses. Many theosophists were among its followers, including Sir Arthur Conan Doyle, who wrote several books on spiritualism and gave a lecture on the topic at His Majesty's Theatre, Perth, in February 1921. A record crowd of over 193,000 people visited the Art Gallery of WA in 1929 to see Will Longstaff's painting *Menin Gate at Midnight*, which was touring Australia. The gate that it depicted, at Ypres, Belgium, was dedicated to the British and Empire forces killed during the First World War. The painting, depicting the shadowy ghosts of fallen soldiers passing through the gate, is infused with the spiritualist ideas then offering consolation to many families.

Spiritual healing, an integral part of spiritualism, is the channelling of energies by the healer through meditative means or prayer to assist a person suffering from an illness or injury. An Australian Spiritual Healers Association (ASHA) was founded in Melbourne in 1964 to unite spiritual healers in each state, including WA. Recent data identifies fourteen Spiritualist centres of worship in WA. **Paul Laffey and Jenny Gregory**

See also: Art Gallery of WA; First World War; Theosophy
Further reading: A. J. Gabay, *Messages from beyond: Spiritualism and Spiritualists in Melbourne's Golden Age, 1870–1890* (2001); J. Gooding, 'A Gallery for All? The Art Gallery of Western Australia', in J. Gregory (ed.), *Western Australia between the wars 1919–1939: Studies in WA history*, 11 (1990); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004)

Spirituality and religion Spirituality, understood as the practice and organisation of religion, falls into four historical periods in Western Australia. In the first period, long before European colonisation began in 1829, over some 50,000 years the various Aboriginal peoples practised a variety of spiritual worldviews. Fundamental within this diversity was a sense that all life, human and otherwise, was governed by the 'Law' that had been given to each of the Aboriginal peoples by their early Ancestor Spirits. This ancient spirituality undoubtedly underwent change from the challenge of Christianity, but remained a fundamental dimension of the outlook of Aboriginal peoples, some of whom, such as the remote Western Desert peoples, were uncontacted by Europeans until the twentieth century.

In the period of colonisation, from 1829 to the inauguration of self-government in 1890, religious belief and practice in WA was dominated by the principal churches of the

colonising British. This also initiated a clash of spiritualities with the Aboriginal peoples of the new British colony. This conflict was only one dimension of the colonial encounter and invasion by the British, and there is little indication of any influence of Aboriginal spirituality on colonial British Christianity. In part, this may have been due to the prevalent British view that Aboriginal culture was primitive and at a lower level of civilisation than their own. This superior attitude to Aboriginal spirituality was exacerbated by the growth of racism in British colonial culture in the later nineteenth century. The hermetic sealing of British religion from Aboriginal was also a product of the immense difference between the two spiritual forms and beliefs. From the ethnocentric British position, Aboriginal spirituality seemed lacking in organisation, sacred buildings and other 'accepted' indicators of religious belief; it therefore became 'invisible' and was deemed non-existent by the colonial British.

Some attempts were made by the British colonial churches in WA to bring the Aboriginal population within the spirituality of Christianity through formal missions to convert the various Indigenous peoples. Most of these were short lived in the nineteenth century, including the mission of the Wesleyan minister John Smithies in the 1840s; the schools of the Anglican clergyman George King and the Sisters of Mercy, in Fremantle in the same period; and the controversial mission of the Anglican priest John Gribble in the Gascoyne in the late 1880s. These were mostly forced to close due to insufficient local support and a lack of understanding of Aboriginal culture and spirituality. The most substantial, long-lasting and creative missionary attempt in this period was the Spanish Benedictine mission at New Norcia, in the Victoria Plains north of Perth. Begun in 1846 as an intentional mission combined with a monastery, the monks, under their abbot Rosendo Salvado, made a wholehearted attempt to understand Aboriginal language and culture. Like their short-lived predecessors,

the New Norcia mission was eventually transformed from a missionary settlement into Aboriginal schools. Catholics continued to have the greatest missionary presence in WA, establishing a number of missionary settlements in the north of the state during the twentieth century. These missions, and those of their fewer Protestant counterparts, also became involved in the twentieth century with the government policy of forcible removal of 'half-caste' children from their Aboriginal parents.

Most of the spiritual activity of the colonisers went into the establishment and expansion of the churches they had known in Britain. Consequently, the Church of England was dominant in the colonial period. It was the only church to have an official, government-paid clergyman, J. B. Wittenoom, who was colonial chaplain from 1830 until his death in 1855. Anglican laymen dominated the colonial elites and government during this period; however, the poverty of the colony for most of the colonial period left all the churches struggling to develop with comparatively little government support. It was not until 1856 that the Diocese of Perth was initiated under Bishop Mathew Hale. Wesleyan laity organised their own worship from the commencement of settlement and built their first chapel in Perth in 1834, but the first minister, John Smithies, did not arrive until 1840. Catholicism began to be organised following the arrival of the Rev. John Brady as Vicar-General to Archbishop Polding of Sydney in 1843. It quickly received a further institutional boost when Brady returned from a recruiting trip to Europe in 1846 as the first Bishop of Perth and with a number of male and female religious missionary workers. However, the colonial growth of the Catholic Church was undermined by internal squabbles and by the small numbers and comparative poverty of Catholics in the colony. Long-term development and growth had to wait until the arrival of larger numbers of Irish Catholics with the advent of penal

settlement in 1850. Irish culture and spirituality became the dominant force in Western Australia's Catholicism until the arrival of other European Catholic nationalities after the Second World War. The other two churches that shared the colonial spiritual landscape with the Anglicans, Catholics, and Wesleyans were the Congregational and Presbyterian, who built substantial churches at Fremantle and Perth in the later nineteenth century.

The major departure from a predominantly Christian spiritual culture in WA in the colonial period was the arrival of a trickle of Jewish immigrants who founded communities and synagogues in Fremantle and Perth. The Fremantle synagogue was short lived in the 1890s, and by the first decade of the twentieth century had been superseded by Perth as the centre of the Jewish community. Increased numbers occurred with the gold rushes in the 1890s, following which synagogues were built in Coolgardie, Perth, Fremantle and Kalgoorlie.

The third period of Western Australian spiritual history began with the advent of large-scale immigration from the eastern Australian colonies from the 1890s as a result of the Western Australian gold rushes, and continued until the Second World War. This altered the traditional mix of colonial churches by the arrival of adherents from the Protestant evangelical churches who formed their own churches and organisations in WA. The Salvation Army arrived as missions on the goldfields and moved into institutional care later that same decade. The first Baptist church was begun in Perth in 1895 and by 1896 there were four churches which formed themselves into a Baptist Union. Other similar Protestant churches that became established in this period included the Lutherans and the Church of Christ. Various sects also arrived at this time, including the Church of Jesus Christ of Latter Day Saints (Mormons), the Christadelphians, and the Christian Scientists. The Religious Society of Friends (Quakers) had travelling ministers visit the

colony in the 1830s but did not become a permanently established presence until the 1930s. The building of a Greek Orthodox church in 1936 represented the organisation of this non-British Christian community and spirituality by Greeks who had been present in some numbers in WA since the early years of the twentieth century.

During this period the former colonial churches were also undergoing transformation caused by the growing population and prosperity of the state, initiated by the extensive gold and mineral mining in the north and timber milling in the south. The Anglican Church inaugurated the new dioceses in Bunbury (1904), the North-West (1910) and Kalgoorlie (1914). It also began to develop agencies of social welfare in this period, and in 1935 Western Australian Anglicanism arrived nationally when Archbishop Henry Le Fanu became the first Western Australian bishop to become Primate of Australia. Anglicanism had been dominated in WA by a moderate evangelicalism, but this was challenged from the late nineteenth century by the advent of an Anglo-Catholic spirituality in the form of sympathetic clergy, and women's religious orders in Perth and Bunbury, and the tiny male Bush Brotherhood. The Catholic Church experienced similar patterns of growth, with Geraldton a new diocese in 1897, Bunbury in 1954, and Broome not until 1966. The major thrust of Catholicism during this period, as in the previous colonial period, was the establishment of a separate Catholic education system. This issue had caused tensions with other churches and the government until the 1895 *Education Act* withdrew government funding.

The predominantly British Christian culture of Western Australian spirituality was only diversified in a substantial way following the arrival of large-scale European and non-European immigration into the state after the Second World War. One major development within the traditional Christian Churches in this period under the influence

Fathers S. Putilin and P. Rados consecrating the foundations for a church in Western Australia. Perth, 1950. Courtesy Russian Church Archive

of the international Ecumenical Movement was the merging of the Presbyterian, Methodist and Congregational churches into the Uniting Church in Australia in 1977, though vestiges of the Presbyterian Church in WA, as in other states, remained outside the new church. This era of religious pluralism and the decline of the traditional religions in WA characterises the fourth period of the history of spirituality in WA. Initially, the traditional churches received a demographic boost during the 1950s as British immigration and increased families brought them greater numbers of adherents. This period also pluralised Western Australian Catholicism. Migrant communities of Italians, Yugoslavs and (from the mid 1970s, following the abandonment of the White Australia Policy) Asian Catholics such as Vietnamese enriched Catholic devotional life, though not without some internal tensions with the predominant Irish culture. Middle Eastern immigration resulted in the advent of ancient Oriental Orthodox churches with established communities of Coptic Christians, Syrian Orthodox, Ethiopian Orthodox and Armenians from the 1970s. It also caused viable communities of Muslims for the first time in WA, the 1991 census recording 8,227 Muslims in the state.

However, from the 1960s the traditional Christian hegemony in Western Australian spiritual culture was challenged more radically by the growth of secularism and the continued decline of numbers of Christian adherents, and by organisations of non-Christian spiritualities. A Baha'i community had existed in WA since 1924, but expanded in this period beyond Perth. Asian communities of Buddhists established themselves during the 1970s, organised statewide in the Buddhist Society of Western Australia in 1973, and the state's Buddhists began two monasteries in 1983 and 1998. Other manifestations of this pluralism in Western Australian spirituality include the 2,254 Hindus and 601 Sikhs enumerated in the 1991 census.

Various other forms of spirituality have also been initiated in the state under the influence of the international western spiritual culture loosely known as New Age and Neopaganism. These include groups of Wicca, occultism, and women's spirituality groups alienated from the patriarchal cultures of the Christian Churches. These groups are small and very varied in their spiritual worldviews, but include such belief options as pantheism, polytheism, theosophy, Gnosticism, naturereligion, or magic. They have moved from the peripheries of spiritual culture in WA to being a visible mainstream presence supported by publications and specialist retail shops. Like the other states, WA presents a predominantly secular public culture which embraces Christianity, whose traditional churches are in decline from previous decades, but with newer Pentecostal churches claiming growth, the presence in urban centres of other communities of major world religions, and small groups of alternative western spiritual cultures within the New Age movement.
Rowan Strong

See also: Aboriginal culture and society; Anglican church; Baha'i; Baptist church; Bible Society; Buddhism; Catholic church; Catholic lay societies; Christadelphians; Christian Science; Church of Jesus Christ of the Latter Day Saints; Church-state relations; Churches of Christ; Congregational church; Ecumenism;

Freemasonry; Greek Orthodox church; Hinduism; Jehovah's Witnesses; Judaism; Lutheran church; Methodist church; Moral re-armament; Muslims; New Age; Oriental Orthodox churches; Paganism; Pentecostalism; Presbyterian church; Quakers; Religious orders; Salvation Army; Theosophy; Uniting church; Women, ordination of

Further reading: M. Aveling, 'Western Australian society: the religious aspect 1829–1895', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); I. Breward, *History of the Australian Churches* (1993); M. Charlesworth (ed.), *Religion business: essays on Australian Aboriginal spirituality* (1998); J. Tonkin (ed.), *Religion and society in Western Australia: Studies in WA history*, 9 (1987)

Sport, Aboriginal people Aboriginal sportspeople have been high achievers, despite inevitable discrimination. In the 1880s the Aboriginal cricket team from the New Norcia mission won numerous victories over teams representing the colonial elite that established the Western Australian Cricket Association: the press considered New Norcia batsman Johnny Blurton the finest in the colony. Yet 120 years later no Aboriginal cricketer had represented Western Australia. Two of Blurton's descendants had significant sporting careers: George Blurton won the WA Football League's medal for 'the most gentlemanly and fairest player' in 1915, while John McGuire, a prominent footballer in the 1970s, was also picked in the state cricket squad in the 1980s, yet remained convinced that prejudice denied him selection for WA in the Sheffield Shield.

Although football's record has been much better than cricket's, the shadow of prejudice still hung over the winter game long after George Blurton's pioneering appearance. After the Second World War, the WAFL organised a competition among children's homes to develop the potential of Aboriginal boys in institutions such as Sister Kate's. In

the 1950s and 1960s Graham 'Polly' Farmer, who moved from East Perth to Geelong, was widely acknowledged as one of the greatest players ever in the Victorian Football League. But despite on-field racial slurs, he and his friend from Sister Kate's, Ted Kilmurray, remained publicly reticent about racial issues. So did Barry Cable, multiple medal-winner of the 1960s and 1970s, whose Aboriginality was scarcely acknowledged until after his retirement. When Bunbury-born Syd Jackson moved from East Perth to Carlton he became the only Aboriginal player in the Victorian Football League in the 1970s.

In more recent decades, however, Aboriginal AFL players from WA have been a major presence at home and in the national competition. In 1993, Nicky Winmar's defiant flaunting of his bared torso provided one of the game's most striking images as he countered an ugly public racist comment by the Collingwood club president. Among other prominent West Australians, too numerous to list in full, the Krakouer brothers, Jim and Phil, were exceptional players both in Perth and Melbourne, while Chris Lewis and Peter and Phil Matera had long careers with the West Coast Eagles. The Fremantle Dockers made football history in April 2003 by including seven Aboriginal players in a team that defeated the Kangaroos at Subiaco Oval. In 2004 WA had 1,481 Indigenous players registered with Australian football clubs in the age group from five to twelve: more than any other state, though fewer than the Northern Territory from where, historically, the WAFL competition has recruited some important players, including Bill Dempsey in the 1960s and Maurice Rioli in the early 1980s.

Impressive progress in football should not obscure Aboriginal achievement in sports attracting smaller crowds and less media attention. In 1977 May Chalker became the first Aboriginal to play interstate golf when representing WA in the 1977 Australian Championship at Royal Perth. Her son Mark

and daughter Marion also became successful golfers. Karl Feifer won three gold and two silver medals, and broke two world records at the World Championships for the Disabled in Holland in 1990 before becoming Sportsman of the Year at the National Aboriginal Sports Awards in 1991. Aboriginal athletes representing the state in judo have included Steven Oxenham, Darren Capewell, Dale Perry and Darren Gidgup. In a career begun at the age of seven, Donna Oxenham won 35 state judo titles, one national one for the Judo Federation of Australia in 1988 and another at the Australian University Games in 1991. She also took part in international exchanges in Japan in 1991 and 1994 and Malaysia in 1996. **Anthony J. Barker**

See also: Australian Rules; Boxing; Cricket; Golf

Further reading: C. Kickett-Tucker, 'Urban Nyoongar children's sense of self in sport', in E. Jaggard and J. Ryan (eds), *Perspectives on sport and society: Studies in WA History*, 18 (1997)

Sport, disabled people Sport for the Disabled in Western Australia has its roots in postwar England, where, in 1944, Dr (later Sir) Ludwig Guttman (1919–1980) established the Stoke Mandeville Rehabilitation Hospital for the spinally injured, catering mainly for injured soldiers. Guttman introduced a rigorous treatment program centred around work and sport. The first Stoke Mandeville Games were held in 1948. It soon became an international event, with Australia sending a team in 1958.

Western Australians Frank Ponta and Bill Mather-Brown became Australia's first medallists in international competition, and went on to many sporting honours. They came from a program set up at Royal Perth (Rehabilitation) Hospital in 1954 by Dr (later Sir) George Bedbrook (1921–1991), with physiotherapist John (Johnno) Johnston, remedial

gymnast Eric Fletcher, and dedicated nursing staff. The first hospital sports day was held in 1954, and heralded the beginning of the disabled sports movement in Australia. Wheelchair basketball developed rapidly in the 1960s. Able-bodied and disabled players formed a number of teams and the competition flourished. National competition was commenced, and Perth hosted the first Commonwealth Games for the Disabled in 1962. The Stoke Mandeville Games were held annually in the UK until 1984, when 1,000 athletes competed, but gave way to the Paralympics ('Parallel Olympics').

The 1970s saw a rapid growth of interest in other aspects of disabled sports. The Association for the Blind began the development of a range of sports and physical recreation for the blind and vision-impaired, including lawn bowls, track and field, swimming, tandem cycling, golf and ten-pin bowling. The Activ Foundation commenced its annual sports day and Day Activity Centres sent teams to this important event. Since its inception in 1974, the annual Activ City to Surf fun run has encouraged people with disabilities to participate. Other associations to develop included the Amputee Sports Association, Deaf Recreation Club, Special Olympics, Riding for the Disabled and RAPID (intellectually disabled). The formation of the WA Disabled Sports Association (WADSA) in 1983 saw all the splintered groups coming under one organisation. Over thirty different associations are now members of WADSA, which has been responsible for the development of many talented athletes with disabilities, including multiple Paralympic gold medallists Louise Sauvage (track), Priya Cooper (swimming), Kingsley Bugarin (swimming) and Bruce Wallrodt (field). The WA Institute of Sport provides scholarships and support for leading disabled athletes. The trend is now toward including people with disabilities in normal sports organisations, with special events where needed. **Richard Lockwood**

See also: Basketball; City to Surf fun run; Disability, intellectual; Disability movement
Further reading: W. Mather-Brown and T. Beck, *The fight in the dog* (2002)

Sport history Writing in *A New History of Western Australia* (1981), Brian Stoddart explained how, in the first half of the twentieth century, organised sport influenced the social and cultural values of Perth's people. His foray into such topics as violence, gambling, women in sport and social theory reflected new directions in one of history's embryonic sub-disciplines, but this has been an example rarely followed. Western Australians prefer to enthusiastically map their sport history from the colonial era through the goldfields boom, two world wars split by the Depression, interstate rivalries, to the appearance of professionalism and national leagues at the end of the twentieth century. They have done this with great zest and in various forms: books such as Peter Sweeney's undated history of a horse (the trotter, Mount Eden), Ken Spillman's massive two-volume story (1998 and 2000) of the Subiaco Football Club, and the most alliterative title among many, *Lunatics, Legends and Lotharios* (n.d.), Glen McLaren's history of showjumping; the creation in 1985 of a WA Hall of Champions to commemorate past achievers; a plethora of annual awards such as the Sportsman (now Sports Star) of the Year; the establishment in 1986 of a Museum of WA Sport, and earlier, the Women's Sport Foundation. All document a rich and vibrant history within the straightforward chronological framework most favoured by organisations and authors.

The writing of sport history has been confined to four groups. First there are the motivated amateurs, members or supporters of a club or association who have an enormous appetite for facts, usually presented in a year-by-year sequence. Norman Healy's history of Eastern Goldfields racing (2000), Janita Cottman and Brian Carthew's fortieth anniversary

(1953–93) account of the Trigg Island Surf Life Saving Club, and Richard Harris's *All in My Stride* (1999), the biography of the near-blind runner John Gilmour, are examples. The second group, journalists, are frequently hired to write straightforward, entertaining studies: for example Peter Sweeney and John Terrell (goldfields sport); Ian Brayshaw, who has authored several cricket biographies including those of team-mates Dennis Lillee and Rod Marsh; and Gary Stocks, Alan East, Cyril Ayris and the late Alan Newman, who served as historian for the Museum of WA Sport. Perhaps the best known is the late Jack Lee. Among his prodigious output spanning several sports were histories of the Royal Perth Golf Club and the East Fremantle Football Club. Personalities, competition and results dominate the pages of such histories, satisfying the interests of the majority of their readers.

Besides the amateurs and journalists there is a third group—those with an academic background in history or a related discipline contracted to meet the requirements of their temporary employer. Among those who have made a notable contribution to the genre are the late Michael White (Lake Karrinyup Country Club, 1988), Harry Phillips (WA Lawn Tennis Association, 1995), Ken Tregonning (Royal Freshwater Bay Yacht Club, 1996), Kevin Casey (Claremont Football Club, 1995), Gil McDonald and Bill Cooper (Royal WA Bowling Association, 1998), Tony Barker (WA Cricket Association, 1998, and WAFL, 2004), and Dino Gava (WA Marathon Club, 1997). Occasionally some of these authors have referred to a much wider social context in explaining developments, and White went further in a later article on WA golf in the 1930s, arguing that social historians, obsessed by the hardships endured by many during the Depression decade, overlooked rising middle-class prosperity, which was reflected in golf's growing popularity.

Finally, some academic historians and postgraduate students, free from contractual

requirements, have followed Stoddart's example by exploring the often complex relationship between sport and society. *Perspectives on Sport and Society* (1997) in the *Studies in WA History* series, illustrated this with articles by Lynn Embrey (softball), Charlie Fox (horse racing), Brian de Garis (football), Kerry Evans (soccer), an innovative study of urban Nyoongar children's attitude to sport by Cheryl Kickett-Tucker, and others.

Barker's history of the WACA, mentioned earlier, was remarkable not only for its forensic analysis of the Association's internal politics, but also for the unique degree of authorial freedom he was given. Yet apart from Stoddart and Embrey, only Jan Ryan (netball) and Ed Jaggard (surf lifesaving, cricket) have made an internationally recognised contribution to sports history.

Besides biographies, club or association histories and those of events such as the Blackwood Marathon (2003), the achievements of 'heroes' and sometimes 'heroines' are enshrined in the WA Institute of Sport's Hall of Champions. Only two of the fourteen inaugural inductees were women, a proportion rising to one-quarter since then. The gender imbalance has been partly restored by the Women's Sport Foundation's sponsorship of Glenn Mitchell's *Pursuing Excellence* (1998), containing short biographies of leading sportswomen. Through its thematic displays the Museum of WA Sport has also contributed to a growing understanding of sport history, nevertheless the challenge of going beyond chronological surveys remains. After all, to paraphrase C. L. R. James, 'What do they know of sport who only sport know?' **Ed Jaggard**

See also: America's Cup; Athletics; Australian Rules; Avon Descent; Basketball; Boxing; Cricket; Cycling, sport; Equestrian sports; Golf; Gymnastics; Hall of Champions; Hockey; Horseracing; Hunting; Lacrosse; Lawn bowls; Log-chopping; Motor racing; National Fitness Council; Netball; Polocrosse; Rowing; Rugby league; Rugby union; Shooting, pistol and rifle; Soccer (Association Football); Softball; Sport, Aboriginal people; Sport, disabled people; Sports system; Squash; Surf lifesaving; Surfing; Swimming; Tennis; Trotting; Water polo; Western Australian Institute of Sport; Yachting

Further reading: E. Jaggard and J. Ryan (eds), *Perspectives on sport and society: Studies in WA history* (1997); B. Stoddart, 'Sport and society 1890–1940, a foray', in C. T. Stannage (ed.) *A new history of Western Australia* (1980)

Sports system For three decades before 1972 the Western Australian sports system was comparatively ad hoc, coordinated by the state's National Fitness Council, which was subservient to the local Department of Education. In the decades since, a well coordinated and adequately funded system has emerged, driven by a government department responsible for a huge range of activities from elite to beginner levels. Reasons for the changes included a climate of national concern about Australia's decline in overall sporting performance, best exemplified by results at the 1976 Montreal Olympic Games.

The state's Department of Youth, Sport and Recreation (Sport and Recreation from 1984), created in 1978 under the leadership of John Graham, was in some ways the successor of the Community Recreation Council, which had been responsible for recreation, youth and sports affairs. Reports by an investigating committee of the latter body (1978) and a Sport Development working party (1983), both chaired by University of Western Australia professor John Bloomfield, provided the framework for future developments in sport. These included systematic provision of facilities, separate advisory councils for sport and recreation (1983), the State Sports Centre (1988, now Challenge Stadium), managed by a trust that also controls other venues such as

Arena Joondalup, and the Institute of Sport (1984). Other additional far-reaching recommendations included greater recognition for women's sport, resulting in the Women's Sport Foundation being established in 1984, and an empowered WA Sports Federation which currently represents more than one hundred affiliated sporting bodies. There was also the introduction in the 1990s of such bodies as the WA Coaching Foundation and the Aboriginal Sport and Recreation Foundation, both of which were consolidated within the Department of Sport and Recreation by the end of the decade.

WA became the undoubted pace-setter among Australian states in introducing an integrated sports system because of the willingness of successive state governments to provide substantial increases in funding. For example, apart from recurrent grants, the Sports Instant Lottery Fund (SILF) was introduced in 1982, and later, in 1991, Western Australian Health Promotion Foundation sponsorships began successfully overcoming the one-time nexus between sport and the tobacco industry. Since the 1970s, as well as playing a role in individual sports, commercial sponsorships have also helped the expansion and/or consolidation of the system.

Reflecting recently on almost thirty years' involvement in the national and WA sports systems, Bloomfield suggested that Keith Wilson, Minister for Sport in the 1983-elected Burke Labor government, was outstanding among his state peers because of his belief that sport was community based, that policies and management should rest with sport, and that governments and sports organisations could enjoy a profitable partnership. These tenets have prevailed since then, although the system's success has also been dependent on the willingness of sports and their administrators to embrace far-reaching change. **Ed Jaggard**

See also: National Fitness Council
Further reading: J. Bloomfield, *Australia's sporting success: the inside story* (2003)

Squash Recreational squash in Western Australia followed an historic agreement in October 1937 between twenty-four prominent Perth sportsmen, businessmen, lawyers and doctors, who guaranteed the establishment of a club, the Perth Squash Rackets Club, and, for eight years, a monthly rental of £21 13s 4d to the Hotel Esplanade Limited, controlled at the time by Roy Paxton. The Esplanade Hotel was on the corner of Howard Street and the Esplanade, Perth. This agreement led to the design by architects Hobbs, Forbes and Partners and the building of two squash courts and facilities behind the Esplanade Hotel.

Competition squash followed the later construction of three courts behind the Adelphi Hotel and the formation of the Adelphi Squash Rackets Club, on the current site of the Parmelia Hotel. The Hannan's Club in Kalgoorlie established a third centre.

The WA Squash Rackets Association emerged in the early 1950s. Its major activity was a winter pennant competition between teams drawn from the membership of the Perth and Adelphi clubs. Only the Adelphi Club had the facilities to accommodate female members and from this a Women's Association emerged. Both the men's and women's associations affiliated with the Australian Squash Rackets Association, and from 1952 WA was represented in national competitions. WA squash was dominated by tennis players seeking a winter sport when grass-court tennis was problematic.

WA hosted interstate competitions for the first time in 1956 at the Adelphi courts, winning the men's event for the only time. Interstate events were hosted again in 1962 (Oxford Squash Centre), 1968 (Claremont/Cottesloe Squash Centre), 1973 (Belmont Squash Centre), 1979 (Balga Squash Centre) and, in the last year in which this national teams event was held in this format, in 1989 at Curtin University Squash Centre. Interstate team competitions were reinstated in 2003. The WA women's team dominated interstate

competition from 1980 to 1986, winning the championship six times.

Western Australia's internationally significant players were Robyn Lambourne (Friday), who won the World Junior Women's Championship in 1983 and reached a world ranking of number two; Barbara Wall, who won the British Open in 1978; Dean Williams, runner-up in the World Championship in 1982, ranked number two in the world in the early 1980s; and Ken Watson, who represented Australia in a series of Test matches against England in 1959. He subsequently became an important international coach.

Squash participation peaked in the early 1970s when there were sixty-five squash centres in Perth and a number in major country towns. Increased costs and competition from a range of indoor sports and recreation activities have reduced the number to fifty-six in 2004 (twenty-one in metropolitan Perth and thirty-four in the country). The WA Squash Association took over the Hyatt Squash Centre in 2004 and initiated redevelopment plans for the sport. **Don Watts, Dean Williams and Ken Watson**

See also: Sport history

St John of God hospitals In 1895, at the invitation of Roman Catholic Bishop Matthew Gibney, eight Sisters of St John of God travelled from Ireland to nurse the sick in Perth and on the goldfields. Gibney provided land for a permanent hospital at Subiaco, and the Sisters, soon joined by others, set up fifteen beds in a timber dwelling, opening their hospital on 19 April 1898. Two years later, the first of many extensions and new buildings augmented the bed capacity to thirty. In 1909, incorporation of 'The Nuns of St John of God' as an association meant, for the Sisters, stewardship of their own resources independent from the diocese. They opened a school in the chapel and, working with local doctors, cared for patients in the hospital as

if 'for Jesus Christ himself'. In limited leisure hours Sisters embroidered tray cloths and hand-worked counterpanes for patients. Free-bed and reduced-fee patients were accepted alongside private patients, regardless of denomination, and the poor were distributed around the hospital so that not even Sisters were aware of their patients' status.

Subsequently, other St John of God hospitals have opened in Western Australia, including Bunbury (1927), Geraldton (1935) and Murdoch with 334 beds (1994). They and the Subiaco hospital, with 485 beds, are part of the St John of God Health Care System formed in 1989. **Phyl Brown**

See also: Nursing; Public health; Religious orders, Catholic women
Further reading: *The Sisters, Sisters of St. John of God: a centenary of service in Australia, 1895–1995* (1994); J. Scally, *To speed on angels' wings: the story of the sisters of St. John of God* (1995)

State barrier (emu and vermin) fence
Emus migrate annually. Major plagues occur following a severe drought. Large numbers migrate southwards and westwards at great cost to agricultural communities. They are protected but can be culled under a Damage Permit. Emu invasions became a major problem in the 1930s as Western Australian farming lands extended eastwards. A bounty was offered for emu beaks. In the 1950s the Agriculture Protection Board modified and added to the old rabbit-proof fences to keep out vermin, including emus, wild dogs, donkeys, goats, camels and kangaroos. The new netting fences were over a metre high topped with rows of barbed wire. Their ability to withstand animal breakthroughs varied with every location; adaptations had to be made. By 1963 a vermin fence stretched inland from the Zuytdorp Cliffs south of Shark Bay to east of Hopetoun on the south coast, enclosing the agricultural lands. In 1976 and
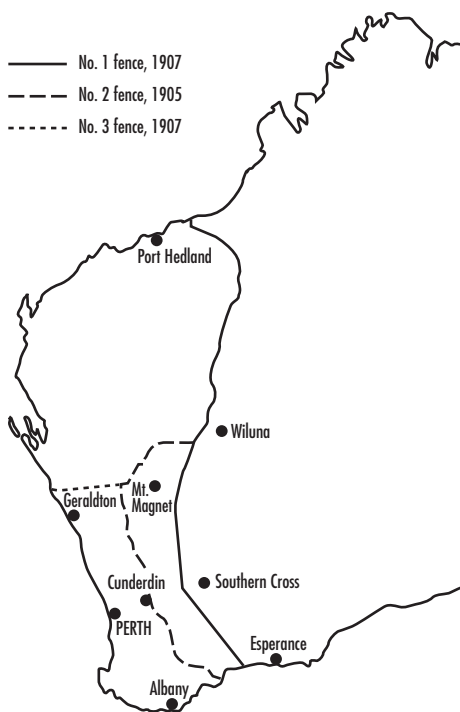
Map of state vermin barrier fences. Based on map supplied courtesy of Department of Agriculture.

again in 1989 hundreds of thousands of emus broke through the fence and destroyed crops. The prospect of similar damage led to major upgrades.

Mass migrations of emus and other vermin continue to be a problem. The 1,170 kilometres of the state barrier fence is today managed and maintained by the Agriculture Protection Board. **Diana Chase and Valerie Krantz**

See also: Agriculture; Camels; Environment; Feral animals; Pests; Rabbit-proof fence
Further reading: Agriculture Protection Board, *State Barrier Fence of Western Australia, 1901–2001* (2001); J. S. Crawford, *History of the state vermin barrier fences: (formerly known as rabbit proof fences)* (1968); '100 years on watch at the Rabbit Proof Fence' in *Inter Sector: Official Magazine of the Western Australian Public Sector*, 7, 13 (2001)

State emblems Like other Australian states and territories, Western Australia has not generally embraced the widespread use of emblems to the extent that has been the case in Canada and the United States of America. Each state of Australia has a flag that retains the Union Jack and the blue ensign background, but replaces the Southern Cross with its own state emblem. The WA flag contains the black swan, the emblem confirmed on 27 November 1875. Historically, a design showing the black swan had been selected for the colony's first postage stamp in 1854, having been used in the 1830s on bank notes. The black swan initially faced away from the Union Jack, but in 1953 its position was reversed in line with heraldic principles. On 17 March 1969, Queen Elizabeth II, by Royal Warrant, granted the coat of arms for WA. Features of the Arms include a silver shield containing the black swan, supported with one paw each by two red kangaroos. The other paw is reserved for holding a boomerang. Resting on a gold and black wreath, above the shield, is the Royal Crown between the stems of two Mangles' kangaroo paws. Since 17 March 1969 the Mangles' kangaroo paw has been Western Australia's floral emblem, while the numbat, or banded anteater, about forty centimetres in length, has been the state's animal emblem since 25 July 1973. On the same day Western Australia's historic black swan symbol was distinctively recognised as the state's bird emblem. A fossil emblem, the gogo fish, was proclaimed on 5 December 1995, continuing the practice of recognition of emblems by executive fiat rather than by parliamentary legislative passage. **Harry C. J. Phillips**

See also: Botany; Constitution; Environment; Foundation Day; Postage stamps; Proclamation Day

State hotels Operating in Western Australia in the first half of the twentieth century, state (owned) hotels were part of a broader system

of state enterprises introduced by the state's early Labor governments. Their aim was threefold: to reduce the consumption of alcohol; to provide quality accommodation; and to eliminate sly grogging (the illegal sale of alcohol). Gwalia had the first state-owned hotel in Australia, built in 1903. (Government-owned Caves House at Yallingup, established around that same time, had a liquor licence and was administered as a tourist facility, not a state hotel.)

In 1911 the state *Licensing Act* was passed, introducing Local Option Polls. The polls enabled electors to indicate whether they wanted more or fewer liquor licences in their district and whether the licences should be private or state-owned. In the first poll, thirty-two of the forty-two state licensing districts voted in favour of state-owned licences. In 1911 the Labor party, led by John Scaddan, won office and Premier Scaddan was responsible for introducing a variety of state-owned enterprises. The State Hotels and Liquor Department was established early in 1912 and Scaddan soon secured a state hotel at Dwellingup. When he left office in 1916 there were seven state hotels, situated at Gwalia, Dwellingup, Bruce Rock, Kwolyin, Wongan Hills, Bolgart and Corrigin. None were set up after his time.

The state hotels were generally a disappointment. Their management was hampered by the inflexibility of government bureaucracy and its general slowness to act. Profit from hotels was not available for their upgrading or maintenance because it went into general state government revenue, leaving some districts to lobby for years for improvements. The government did not allow competition and, in most cases, communities were too small to support a competitor. In 1959 the State Hotels (Disposal) Bill was passed, allowing the government to sell or lease the state hotels, with preference given to community companies. The hotels at Gwalia, Dwellingup and Wongan Hills were bought as community ventures while those at Bolgart, Bruce Rock,

Corrigin and Kwolyin were bought privately. In 2008, Kwolyin hotel has gone; the Gwalia building has not been a hotel since 1964; Dwellingup is still community owned; and Bruce Rock, Wongan Hills, Bolgart and Corrigin are privately owned hotels. **Anne Rogers**

See also: Brewing and breweries; Drinking; Hotel industry; Tourism
Further reading: D. Black, 'Party politics in turmoil 1911–1924', in C. T. Stannage, *A new history of Western Australia* (1981); C. de Mori, *'Time, gentlemen': a history of the hotel industry in Western Australia* (1987); A. Rogers, 'The Wongan Hills Hotel: a case of state and community ownership', *Early days: journal of the Royal Western Australian Historical Society*, 12, 3 (2003)

State Records Office The State Records Office of Western Australia (SRO) is the government agency responsible for providing recordkeeping services to government agencies and granting appropriate access to state government records. SRO works within a legal framework mandated by the State Records Commission that, under the *State Records Act 2000*, establishes principles and standards of record-keeping across government, and monitors compliance with them. The impact of this bipartisan regime is to enhance government accountability and facilitate the creation and preservation of the state archives.

The creation of SRO as a legal entity in November 2001 can be seen as the outcome of an uneven process of government record-keeping that had commenced in 1829. Early diligence by colonial officials in maintaining their records was not subject to a matching system of archival management and, early in the twentieth century, Premier W. H. James signalled the first systematic attempt to preserve official archives. By 1906, records from 1829–57 had been lodged with the Public Library. Until 1923 the transfer of

further records to archival custody was largely dependent upon a few public servants, whose interest, along with the initiative of the Public Librarian, culminated in 1923 with the creation of a State Archives Board with J. S. Battye as chair. From 1930 directives were issued which required the Executive Council and the Board to approve any destruction of records.

The establishment of the Western Australian Historical Society in 1926 led to a groundswell of support for the preservation of the state's archives and, as a result, the Archives Branch of the Public Library was created in 1945 with Mollie Lukis as the first Archivist. The functions of the Branch, now with the name State Archives, were incorporated into the J. S. Battye Library of West Australian History in 1956 under control of the Library Board. From 1974 government record-keeping was subject to an amendment to the *Library Board Act*.

Deficiencies in government record-keeping, revealed in the 'WA Inc.' inquiry of 1993 and followed up by the Commission on Government in 1995, reinforced political and professional pressures that resulted in the development of the *State Records Act*, creation of the State Records Commission and separation of SRO from the State Library on 1 July 2001. **Chris Coggin**

See also: Battye Library; Historiography, Western Australia; Royal Commissions; Royal Western Australian Historical Society
Further reading: T. R. Reynolds and C. Coggin, 'The State Archives of Western Australia', in R. C. Sharman and L. A. Clyde, *Western perspectives: library and information services in Western Australia* (1990); *State Records Act 2000*, www.sro.wa.gov.au/about/sra2000.asp

Stock Exchange The first formal stock exchange lasted fifteen months, but members became disenchanted because it met only twice a week, often resulting in informal trading of shares in bars and coffee lounges. The Stock Exchange of Perth was launched July 1889 with eleven listed companies and thirty-one members chaired by Sir Cornthwaite Rason (later, state premier 1905–06). The first decade was the most active of the Exchange and gold discoveries triggered a boom that attracted London speculators. Other exchanges in Coolgardie and Broad Arrow flourished, while night trading at Kalgoorlie through open call often proved busier than Perth.

The Exchange acquired property at 49 St Georges Terrace in 1896, but it struggled when the gold boom collapsed, and by 1898 only half its forty-two members could pay their annual fee. A resurgence came after the 1929–30 Depression when the Commonwealth introduced a bounty of one pound an ounce on gold production. Activity was sparse during both world wars and weighted to lodging applications for Commonwealth government bonds, while during the Second World War shares traded within defined maximum or minimum prices under National Security regulations. In 1937 the Exchange participated in the formation of the Australian Associated Stock Exchanges that saw uniform listing requirements.

While business gradually recovered, membership fell to eighteen by 1950, but the Rough Range (Exmouth Gulf) oil discovery in December 1953 revitalised trading. This was reinforced by the iron ore, bauxite and nickel developments of the sixties and the subsequent Poseidon speculative boom. Stock Exchange rules were rewritten following a report in 1974 of a Senate Select Committee into the collapse of that boom.

A submission by the National Companies and Securities Commission to the Trade Practices Commission that fixed brokerage charges were a *prima facie* restraint on trade, led to their abolition in 1984. In 1987 the Exchange merged into the Australian Stock Exchange (ASX). The consolidation enabled a single automated national market, operating

through computers. The ASX converted to public company status and listed on its own market in 1998. **Graeme Adamson**

See also: Alumina; Entrepreneurs; Gold; Mining and mineral resources; Nickel; Oil and gas
Further reading: G. Adamson, *Miners and millionaires: the first one hundred years of the people, markets and companies of the stock exchange in Perth, 1889–1989* (1989)

Stock routes provided the first pathways of transport and communication in the settlement of Western Australia. As well as stock, the routes served as public thoroughfares and carried stock riders, pack animals, pedestrians, cyclists and wheeled vehicles. From the 1830s the routes linked frontier pastoralists and the emerging districts with coastal communities for sea passage to the metropolitan area and, later, to railway sidings.

The earliest stock movements went from established areas to the expanding frontiers of the colony and, for some decades, few stock came southward from the pastoral regions. As the new pastoral regions became increasingly better stocked, sheep and cattle were driven from properties to abattoirs in Perth, Kalgoorlie and the Kimberley port towns, as well as to markets where cattle were bought for fattening.

In an era preceding the use of motorised vehicles, movement by foot or by animal transport necessitated supplies of potable water and fodder with soft ground to sustain travel. Main trunk routes, although in use long before, were progressively gazetted between 1862 and 1954 from Perth to Wyndham. These official pathways, one mile (1.61 kilometres) in width, connected supplies of existing surface water and wells holding underground supplies. The earliest wells were sunk privately and had a rudimentary fork and lever mechanism for drawing water. Where necessary, additional wells were sunk,

approximately 16–24 kilometres apart, by the Public Works Department, and equipped with whip poles, windlasses and sturdy troughs to cater for travelling personnel and stock. The wells were protected by gazetted blocks and became known as official government wells.

The pathways were not demarcated or marked in any way except for the traces left by the hooves of walking animals. In the southern portion of the state the main thoroughfares were not gazetted as stock routes; nonetheless, just as in the northern areas, a network of unofficial tracks fed into them. All these access ways carried thousands of animals during their period of utilisation. The Canning stock route, however, despite its prominence in mythologising Australian outback travel, carried little stock during its term of use from 1907 to 1959. The route only serviced spasmodic southbound drafts of cattle droved from two or three properties in the south-east Kimberley to the railhead at Wiluna.

Arid conditions encountered over most of WA rendered movement hazardous. Topography varied from the stony ranges of the Kimberley and the inland plateau to the sand plains of the central coast and the wooded scrubs of the South-West. Nonetheless, the routes serviced all inland movement until motorised traffic and formed roads gradually came into use in the early twentieth century. **Nan Broad**

See also: Livestock; Pastoralism; Transport
Further reading: J. S. Battye (ed.), *The cyclopedia of Western Australia* (1985); W. J. De Burgh, *The Old North Road* (2002); F. K. Crowley, *Big John Forrest 1847–1918: a founding father of the Commonwealth of Australia* (2000); R. Erickson, *The Victoria Plains* (1971)

Stolen generations This entry is dedicated to my mother and all the children of the stolen generations who suffered the loss of not

growing up in a family environment. To all Aboriginal and Torres Strait Islander People this environment is the spiritual essence of our being. That loss, that sadness, is deep and ever present in all our lives today.

When Paul Keating, then prime minister of Australia, said in 1992, 'we took the children from their mothers,' during his renowned Redfern reconciliation speech, he was referring to the stolen generations: Indigenous children forcibly removed from their families and communities by 'compulsion, duress or undue influence'. Colonial then state governments were responsible for enacting legislation to enforce this separation of Indigenous children from their families and communities, a process which, in addition to dramatically affecting Indigenous family relationships, facilitated segregation and marginalised Indigenous people from the rest of society.

The 1905 *Aborigines Act* formalised this process in WA, establishing the necessary mechanisms that effectively controlled all Western Australia's Aboriginal people. The Chief Protector in WA became the guardian of all Aboriginal children aged sixteen and under. Children of mixed descent were targeted and lawfully removed and placed in missions, reserves, orphanages and white foster homes with the intention of absorbing and assimilating them into broader society. Throughout WA, numerous institutions were established for Aboriginal children, including Beagle Bay, Moola Bulla, Cosmo Newbery, Moore River (now immortalised in the film *Rabbit-Proof Fence*), New Norcia and Carrolup. Rob Riley, a prominent WA Aboriginal campaigner and later CEO of the Aboriginal Legal Service of WA (ALSWA), spent his early life in Sister Kate's Home in metropolitan Perth.

The racist and systematic separation of Aboriginal children from their families is not just an issue of the past but also a contemporary one. The impact of removal is now known to be intergenerational, contributing to the obvious rupture of Aboriginal families

today. Long-lasting physical, psychological, emotional and spiritual effects are associated with unresolved feelings caused by the trauma of separation and institutionalisation. In 1995 ALSWA prepared a report, *Telling Our Story*, documenting the experiences of more than six hundred Aboriginal people from WA affected by policies of separation and assimilation. The following year the report was the basis of ALSWA's major submission, *After the Removal*, to the National Inquiry into Separation of Aboriginal and Torres Strait Islander Children from their Families. The 'Bringing Them Home' inquiry, led by Western Australian Sir Ronald Wilson, found that virtually all Indigenous people were affected by the stolen generations, even if they were not themselves forcibly removed. The number forcibly removed was strongly debated: the federal government estimated that no more than 10 per cent of Indigenous children were taken; however, the inquiry found that 'nationally between one in three and one in ten Indigenous children were removed between 1910 and 1970'. The inquiry also sparked heated discussion about the benefits received by Indigenous children placed in institutions.

Following the NSW parliament's lead in November 1996, all state parliaments have apologised to the stolen generations, the Western Australian parliament under Premier Richard Court doing so on 28 May 1997. In an historic speech delivered in Parliament House, Canberra, in February 2008, newly elected ALP prime minister Kevin Rudd apologised to the stolen generations and their families on behalf of the Australian government, parliament and people. Reparation (including compensation) was a key recommendation of the National Inquiry, but the loss of the landmark Northern Territory case brought by Cubillo and Gunner against the Commonwealth for compensation for maltreatment has undermined the likelihood of compensation for Western Australia's stolen generations. **Violet Bacon**

See also: Aboriginal administration; Aboriginal culture and society; Aboriginal Legal Service; Aboriginal legislation; Aboriginal protectors; Children; Mission schools; Orphanages; Sister Kate's

Further reading: A. Haebich, *Broken circles: fragmenting Indigenous families 1800–2000* (2000); A. Haebich, *For their own good: Aborigines and government in the south west* of *Western Australia, 1900–1940* (1992); National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from Their Families, *Bringing them home: report of the National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from Their Families* (1997)

Studies in Western Australian History is a refereed journal series produced by The University of Western Australia (UWA). It was established to communicate research findings and to encourage serious inquiry into Western Australian historical topics. Originally named *University Studies in History and Economics*, it was first published in 1934. The journal appears to have been the very first UWA publication.

Six issues were published under the original name, in 1934, 1938, 1953, 1954, 1955 and 1956. The following year, the name was changed to *University Studies in Western Australian History* and issues were published in 1957, 1958, 1959 and 1960. The name *University Studies in History* was introduced in 1961–62 and a further eight issues were produced, 1961–62, 1963–64, then annually to 1970. The journal resurfaced in 1977 as *Studies in Western Australian History*. The next eight volumes (1977, 1978, 1981, 1982, 1983, 1984, 1987 and 1988) were produced by the Department of History at UWA. In 1989 the Centre for Western Australian History, established within History at UWA in 1985, assumed responsibility for publication.

While the articles in the early volumes were eclectic, since 1978 all issues except

Historical Refractions (14, 1993) have been thematically based. Book reviews form an important part of the journal's contents. *Studies* became a refereed journal in 1990. The high standard of editors and contributors was established from the early decades by the involvement of historians such as Fred Alexander and Frank Crowley. The tradition of involvement of pre-eminent historians has continued. In recent years, authorship of articles has widened from a predominantly UWA base. At different times, *Studies* has benefited from private sponsorship or partnership with other universities. **Jean Chetkovich**

See also: Historiography, Western Australia; Journals and magazines; University of Western Australia

Further reading: *Studies in WA History*, www.cwah.uwa.edu.au/journals

Suburban development in Perth began in the mid 1880s. The adoption of the Torrens system simplifying land dealings (1875), increasing competition in the banking sector, the opening of the Fremantle–Perth–Guildford railway (1881), the promise of gold in the Kimberley (1883–85), government loans raised in Britain for public works (1885), and the likelihood of self-government for the colony were the precursors of a land boom. Those who owned land adjacent to the railway began subdividing and auctioning estates, the government began to release suburban lots, and interstate companies, recognising signs of collapse in the long land boom in the east, looked to Perth for investment opportunities. Before long, speculation was rife. Big profits were made from the sale of land once considered worthless. Within a decade, thousands were leaving the depressed eastern colonies to find work in gold-boom Western Australia, and by 1911 the city was ringed with suburbs.

Until the 1890s most housing had been in areas immediately adjacent to the towns of

Perth or Fremantle or in isolated pensioner-guard villages. Rich and poor lived in close proximity as the only transport was by horse and buggy on unmade roads or by river. The advent of the railway enabled people to live further from their place of work. The pace of population growth along Perth's railway lines is indicated by the number of districts attaining municipal status at this time: Helena Vale, later renamed Midland Junction (1893), Leederville (1896), Subiaco (1897), Victoria Park (1897), Claremont (1898), North Perth (1901) and Cottesloe (1907).

Tram services also assisted new suburban development from 1900, with some developers entering into agreements with tramway companies to extend their lines to new estates. The Osborne Park Tramway Estate (1902) and the Nedlands Park Tramway Estate (1907), which included the added inducements of a hotel and baths, are key examples of the use of tramways to attract buyers and promote sales.

With improved transport came residential segregation. By the First World War many of the suburbs between Perth and Fremantle were well established as desirable residential locations, with Claremont, Peppermint Grove and Cottesloe rivalling West Perth as *the* place to live. Subiaco, Leederville and North Perth had gained a reputation as respectable artisan suburbs. These suburbs were increasingly socially differentiated on the basis of house type, building materials and levels of home ownership. The WA Government Railway Workshops, located first at North Fremantle and then at Midland from 1904, drew working-class families to the surrounding districts, and these areas joined other largely working-class suburbs like Victoria Park, Belmont and Bayswater.

In 1912 the Scaddan Labor government established a Workers' Homes Board to assist in the provision of housing for workers. After the First World War it acted as agent for the War Service Homes Commission which provided loans for ex-servicemen.

Nedlands, for example, became known as 'the bridal suburb', as ex-servicemen married and bought a home in the new suburb. The increasing birth rate, as well as assisted immigration from Britain, led to a population surge, and real estate boomed in the 1920s. The level of home ownership was very high in Perth in the interwar period: increasing from 41 per cent in 1911 to 55 per cent in 1921 and 1933, and in middle-class suburbs like Nedlands reaching 71 per cent. Suburban expansion was aided by the development of both government and private bus services, so that by 1927 there were almost forty different routes in the metropolitan area.

To that date suburban development was virtually untrammelled. But the enactment of Perth's first *Town Planning and Development Act* in 1928 placed constraints on development by providing for the zoning of industrial, commercial and residential areas within local government authorities.

The Depression put a temporary hold on suburban development, but the increased price of gold speeded Western Australia's recovery earlier than in most of Australia. Middle-class suburbs like Nedlands, Dalkeith, Mount Lawley, South Perth and Como experienced a building boom.

In the aftermath of the Second World War there was a severe housing shortage. Houses for ex-service personnel were built either through a rent-purchase scheme or by the provision of a loan from the War Services Homes Scheme. New estates were concentrated around Floreat Park, Scarborough, South Perth, Applecross, Manning, Victoria Park, Doubleview, Mount Pleasant, Hilton and Yokine. The development of suburbs on the 'other side of the river' had been held back by limited access, but in 1954 the local-government districts of Belmont and Canning, accessed via the Causeway, and Melville, accessed via Fremantle, became the fastest-growing suburbs in the metropolitan area. Once the Narrows Bridge was built across the

Swan River in 1959, suburban development south of the river continued apace.

The postwar housing shortage was exacerbated by the extent of immigration from Europe. For migrant families the typical pattern, after initial housing in a government migrant camp, was to rent accommodation. This could be just a room or the verandah of a house or a new State Housing Commission flat or house. Once a family was able to buy a block of land in an outlying suburb, a temporary structure would be built on the block, and here the family would live while the house was built using a self-help manual or contract tradesmen. The State Housing Commission took over from the Workers' Homes Board in 1947 and, as well as building houses and flats in suburbs like Hilton to help ease the housing shortage, the Commission imported Austrian kit homes that could be erected in weeks.

By 1955 Perth's suburbs extended from North Beach to Spearwood in the south and clung to arterial roads with little suburban development east of Cannington. In that year Gordon Stephenson and Alastair Hepburn released the blueprint for the 1959 *Metropolitan Region Town Planning Scheme Act.* It redefined the metropolitan area as an area of 5,000 kilometres defined by natural boundaries—the hills and the ocean to the east and west, and Yanchep National Park and Warnbro Sound to the north and south. Centres of growth were to be created on the outskirts of the metropolitan area and connected by eight new regional highways and an enlarged rail network.

The Corridor Plan modified this plan a decade later, by restricting suburban development to four designated corridors and establishing Joondalup, Midland, Armadale and Rockingham as major sub-regional centres near the outer limit of each corridor. Another economic boom, the population surge of the early 1970s and an apparent shortage of land all put considerable pressure on this plan, and zoning amendments allowed suburban subdivision outside the corridors.

Concerns about unrestrained outer suburban growth and the cost of providing infrastructure (roads, power and sewerage) led to the development of Metroplan (1990). This plan championed urban consolidation, resulting in increased housing density in many suburbs as well as new suburban development on disused industrial sites such as East Perth, Rivervale and North Fremantle. The government's most recent plan, Network City (2004)—a community planning strategy for Perth and Peel (which is outside the Metropolitan Regional Plan)—aims to manage further growth by sharing responsibility between industry, communities and government; encouraging public over private transport; nurturing the environment; encouraging local senses of place; and creating high density nodes, a strategy to deliver local jobs and affordable housing. **Jenny Gregory**

See also: Flats and apartments; Fremantle; Housing; Kwinana; Local government; Perth; Real estate and land development; Roads; Town planning; Transport

Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); N. Peters, *Milk and honey—but no gold: postwar migration to Western Australia 1945–1964* (2001); J. Selwood, 'Public Transport and Urban Growth' in J. Gentilli (ed.), *Western landscapes* (1979); C. T. Stannage, *Lakeside city: the dreaming of Joondalup* (1996); C. T. Stannage, *The people of Perth* (1979)

Suicide is defined as the purposeful taking of one's life as established by coronial inquiry. Although there has been an increase in specific age/gender groups, particularly since 1980, the Western Australian age-standardised suicide rate has remained relatively consistent since the 1920s.

Variations in rates of suicide in WA are linked to historical periods and to specific group characteristics. Nationally, fluctuations

have occurred during the two world wars (rates decreased), the 1890s and 1930s economic depressions (increased), the 1960s with increased accessibility of barbiturates and other drugs (increased for females), and post-colonisation for Aboriginal males (increased). Significantly higher rates of death by suicide occur among Aboriginal males, as well as young males aged 15 to 24, older males aged 25 to 44, country (rural and remote) resident males, gays/lesbians, and males who have migrated/fled from other countries. There has been a steady increase in the 15- to 24-year-old male suicide rates in almost all rural areas of Australia since the mid 1960s, with the sharpest increases occurring in smaller rural and inland areas.

Since 1986 WA has maintained a Coroner's Database on Suicide, established to enable systematic examination of population trends in suicide and the identification of risk associations. The data collected have also guided the implementations of preventative interventions in reducing suicide.

Between 1986 and 2003, suicide accounted for a total of 4,038 deaths in WA (3,254 males and 784 females), showing an average annual rate of 13.3 per 100,000 population (male and female combined). However, males completed suicide at almost four times the rate of females, with a rate of 21.2 per 100,000 compared with 5.2 per 100,000 for females. The rate of suicide among Aboriginal males during the 1986–2003 period is almost double that of non-Aboriginal males, with rates per 100,000 of 20.5 for non-Aboriginal males (3,047 total) and 41.1 for Aboriginal males (207 total).

Rates of suicide by male teenagers (15–19 years) peaked in 1998 at a rate of 22.3 per 100,000, but this rate had decreased to 10.9 per 100,000 in 2003, a fall attributed to improved health education. This corresponds to around seven fewer deaths per year in this age group. However, the cohort of male youth (15–24 years) who had high rates of suicide in the late 1990s have continued to

have high rates of suicide as they move into the age range 25–34 years. The most recently available data show that the sector of the WA population at highest risk of suicide in 2003 is males aged 25–34 years.

WA was the first Australian state to develop a comprehensive across-government strategy for preventing suicide and self-harm with the establishment of the Youth Suicide Advisory Committee in 1989, now known as the Ministerial Council for Suicide Prevention. Since then, all other states and territories have developed similar bodies. **Pauline Meemeduma and Deborah J. Robertson**

See also: Aboriginal health; Adolescence; Death; Drug use
Further Reading: B. Woolley and P. Meemeduma (eds), *If only: personal stories of loss through suicide* (2006)

Sunday Times Established in 1897, the *Sunday Times* remains Western Australia's only weekly newspaper with a state-wide circulation. Founded by Frederick Vosper and Edward Ellis, the paper was born in the dissident politics of the goldfields and its largely east-coast immigrant, or 't'othersider', population. Vosper was member for North-East Coolgardie in the Legislative Assembly and Edward Ellis had founded Australia's first Sunday journal, Sydney's *Sunday Times*, when they combined to establish the Perth-based paper. In 1898 Vosper assumed sole control and developed a strident editorial line, railing against the 'old settler' elite that dominated the colony's political life.

Vosper had earlier been involved in labour activism and journalism in Queensland before venturing west to edit the *Geraldton Express* in 1895. Under the banner, 'A Journal for the People', later 'A Paper for the People', Vosper's *Sunday Times* extolled workers' values and interests. It also campaigned on issues such as women's suffrage, conditions of care for the mentally ill, and allegations

of government corruption and maladministration. The paper developed an eclectic politics, publishing satire and poetry written by several goldfields writers, notably Edwin 'Dryblower' Murphy, yet was suspicious of the Federation movement that was widely supported on the 'fields.

After Vosper's premature death in 1901, the *Sunday Times* was bought by Scottish immigrant James McCallum Smith and Arthur Reid, establishing the Sunday Times Publishing Company (Reid later sold his share to Smith in 1912). Smith and Reid reasserted the paper's anti-federal line, and by 1906 the *Sunday Times* was arguing for secession. In 1919 the *Sunday Times* revived the secessionist cause, and did so again in 1926, when Smith was a key supporter of the Secession League. It successfully advocated a yes 'vote' in the secession referendum of 1933, only to be disappointed by the British government's refusal to act on the issue. Throughout the decades of Smith's ownership, the paper courted the farming community and conservative interests. It also frequently criticised governments for failing to support agricultural research adequately.

Proprietors of the *Call* and the *Mirror* newspapers, Victor Courtney and Jack Simons, joined flamboyant businessman Claude de Bernales to form Western Press Limited and buy the *Sunday Times* in 1935. As part of the deal, Smith became chairman of Western Press and retained a significant financial interest in the company. In the early years of the Second World War, the paper switched political allegiances and became a strong supporter of the Labor party. Under editor Frank Davidson it developed a tabloid layout and more modern editorial tone. In the early 1950s the then owner of the *Adelaide News*, Rupert Murdoch, gained control of Western Press and travelled weekly from Adelaide to supervise production of its papers. This was the first of Murdoch's major newspaper acquisitions in Australia, and the paper helped build what eventually became his global media

group, News Corporation. While the *Sunday Times* remains known for its conservative populism, the paper's campaigning tradition was reinvigorated in the 1980s with early reporting of the 'WA Inc.' scandals. Together with *The West Australian* it has outlasted its competitors and remains a media institution in the state. **Mathew Trinca**

See also: Journalism; *Mirror*; Newspapers, goldfields; *West Australian*

Further Reading: K. Byers, 'The Goldfields come to Perth: the *Sunday Times* 1897–1905', in B. Shoesmith (ed.), *Media, Politics and Identity: Studies in WA History,* 15 (1994); R. Davidson, *High jinks at the hot pool* (1994); F. Dunn, *A century of Sundays* (1997); E. Jaggard, 'Bread and Democracy: F. C. B. Vosper in the Roaring Nineties', *Westerly*, 4 (1977); P. McClelland, 'One Man and a Committee: Frederick Vosper and the 1900 Inquiry into Fremantle and Whitby Falls Lunatic Asylums', *Limina: a journal of historical and cultural studies*, 1 (1995)

Surf lifesaving, a voluntary humanitarian activity but also an eye-catching summer sport, first appeared on a Western Australian beach—Cottesloe—in 1909. Responding to the growing popularity of ocean swimming at a location conveniently serviced by the nearby railway station, Sergeant John Smith, a policeman and Royal Life Saving Society (RLSS) instructor, was the driving force behind the formation of the Cottesloe Life Saving and Athletic Club. The RLSS's initial involvement in beach safety mirrored that in New South Wales (1906–07) and later Queensland and Victoria.

After the First World War, as the number of swimmers at ocean beaches increased, surf lifesaving clubs appeared at North Cottesloe (1918), Bunbury and City Beach (1925), North Beach (1926), Scarborough (1928), and soon afterwards at Geraldton (1929), Swanbourne (1932) and Leighton

(1932). Before 1926, links to the RLSS remained strong, Smith being involved in the establishment of at least two clubs besides Cottesloe, and the Society's awards becoming the qualification for patrolling surf lifesavers.

However, pressure mounted for a separate body affiliated with the Sydney-based Surf Life Saving Association of Australia, which issued its own awards. WA clubs took this step in 1925, forming a state centre of surf lifesaving, but it was not until after a visit from a New South Wales team in 1927, when the new awards were introduced, that the break was complete. Among the initiatives following this was the introduction in 1925–26 of formal programs of competition including championship carnivals, emphasising the movement's sporting as well as humanitarian dimension. Moreover, unlike the New South Wales parent body, it also encouraged clubs to allow women to enjoy their own sporting activities, though not to patrol the beaches.

Before 1939 WA surf lifesavers rarely enjoyed interstate competition, but this changed after 1945 when the best competitors began travelling regularly to New South Wales, Queensland, and later to other states for the annual Australian championships. Don Morrison (Cottesloe Surf Life Saving Club), an outstanding belt swimmer, won four national titles and numerous placings between 1948 and 1959, and others followed his lead, although with less success.

By 1959 there had been 3,500 lives saved on WA beaches, and since then lifesaving standards have remained high. In the 1970s Australian surf lifesaving began an overdue transformation and WA beaches soon saw several changes: new rescue technology including inshore rescue boats (IRBs); admission of women to full membership; and a greater emphasis on individualism rather than the once glorified teamwork. Furthermore, new clubs such as Trigg Island (1953), Sorrento (1958) and Mullaloo (1960) successfully challenged an earlier hegemony of the two

Cottesloe clubs as well as City of Perth (at City Beach) and Scarboro [sic] clubs.

Competition standards have not matched those in lifesaving, despite widespread participation and a vibrant 'nipper' (junior) division. Ken Vidler, a brilliant iron man and ski paddler who won many Australian championship events, John Trail (ski) and the Trigg Island and Swanbourne–Nedlands surf boat crews were among those who enjoyed national successes which otherwise have been rare.

Today, with twenty-four clubs dotting the coastline from Esperance to Broome, professional managers working alongside volunteers and an excellent record of beach safety (more than 18,000 lives saved since 1909), surf lifesaving remains a highly respected community-based activity and organisation.
Ed Jaggard

See also: Beaches; Surfing; Swimming
Further reading: E. Jaggard, *A challenge answered: a history of surf lifesaving in Western Australia* (1979)

Surfing shot to popularity in Western Australia as a recreational pursuit and sub-culture during the postwar era, initially as an arm of the surf lifesaving movement. Until 1956, local surfers rode 12- to 16-foot timber-framed paddleboards and hollow plywood surfboards in-between club duties—at best managing to lumber their craft into a trim across the wave face. The sheer size and weight of the boards meant that early surfers were tied to the surf clubs, if only as a storehouse for their equipment.

Things changed in November 1956 when a local team travelled to Victoria to compete in the International and Australian Surf Championship Carnival. The event, held to coincide with 1956 Olympic Games, featured teams from Hawaii and the United States riding some of the first fibre-glassed balsa Malibus ever seen in Australia. WA team

rider Graham 'Tuppy' Lahiff returned with one of the 'Yanks" boards, which local surfers such as Brian Cole and Barry King quickly cloned and took into production. The boards were relatively lightweight, transportable and affordable—opening up new possibilities in surf exploration and performance.

A core group of surfers who had abandoned the surf lifesaving clubs soon formed the West Coast Boardriders and began to travel to the Yallingup area on regular weekend 'surfaris'. By the 1960s they had befriended Caves House lessee Bill Copley and set up a clubhouse in the hotel's disused laundry building. The West Coast Boardriders were soon followed by other dedicated surfing clubs such as the Yallingup Boardriders, North End Boardriders, City Beach Boardriders, Cottesloe Boardriders, the Dolphins, Southern Surfriders and the Indiana Boardriders from Bunbury. Ironically, the surfers soon rebuilt the systems that they had fled from in the surf lifesaving movement—including club hierarchies, rivalry, competitions and corporate sponsorship.

The Western Australian Surf Riders Association, since renamed Surfing WA, was formed in 1964 to help local surfers perform and compete at national level. That year the state's surfers also held a national surfing contest at Yallingup Beach with sponsorship from Ampol, one of the rare times when a petrochemical company has aligned itself with the sport.

More than a decade later, Ian Cairns became the first local surfer to stand out at international level, coming second in the International Professional Surfing (IPS) inaugural world title rankings in 1976. Since then, Jodie Cooper, Mitch Thorsen, Dave Macaulay, Melanie Redman-Carr, Paul and Jake Paterson and Taj Burrow have all distinguished themselves as WA surfers on the international stage. **Nathan Lynch**

See also: Beaches; Surf lifesaving; Swimming
Further reading: N. Young with C. McGregor,

The history of surfing (1983); M. Walding, *Blue heaven: the story of Australian surfing* (2003)

Surveying is the scientific process of measuring, marking and recording the land for the purpose of mapping, allocation and usage. In May 1829, when appointing John Septimus Roe to be the surveyor general of the Swan River colony, Lieutenant-Governor Stirling recognised the need for exploration and surveying, and instructed him 'to cause the colony to be mapped and divided'. Surveyors, many of whom had received their training in naval or military service, continued to carry out much of the exploration still needing to be done.

From 1829 to 1855, surveyors undertook the major task of exploring, surveying and mapping what is now the South-West land division. Surveyor-General Roe directed this work and carried out much himself. Other expeditions were led by naval and military officers, the better known being Captain Currie, Dr J. B. Wilson, lieutenants Preston and Erskine (all Royal Navy), and army captains Molloy, Bannister, George Grey, Lieutenant Bunbury and Ensign Dale. From 1831 civilians including, among others, surveyors and assistant surveyors Clint, Hillman, Moore, Smythe, Chauncy and Ommaney added to the efforts of their military colleagues.

From the 1850s, while further surveys for land settlement were undertaken in the South-West, the exploration of the central portions of the colony and preliminary exploration of the Kimberley took priority. In 1856 A. C. Gregory, coming west from the mouth of the Victoria River, explored Sturt Creek down to Gregory's Salt Sea. His brother, F. T. Gregory, investigated unexplored parts of the Murchison District in 1857–58 and in 1861 explored from Nickol Bay to the coastal plains in the vicinity of the Ashburton, Fortescue, De Grey and Oakover rivers, all of which he named as first European discoverer. John

Forrest's first long trip was made in 1869, when he investigated the country as far out as Lake Barlee in the course of a fruitless search for the remains of Leichhardt and his expedition. In the following year, with his brother Alexander, he made the overland trip from Perth to Adelaide via Esperance and Eucla. In 1871, Alexander Forrest further investigated possible agricultural country, particularly the Esperance plains, to the north of that covered on the previous trip.

From 1883, when John Forrest succeeded Sir Malcolm Fraser as Surveyor General, surveys for land settlement and scientific triangulation and traverse surveys for detailed mapping, combined with exploration, intensified. From 1900 until the outbreak of the Second World War epic surveys were completed by surveyors such as Frederick Drake-Brockman, Richard Anketell and Alfred Wernham Canning. These included the Transcontinental Survey, the rabbit-proof fences, a stock route from Halls Creek to Wiluna, and the massive 'soldier/settler' and 'group settler' farm schemes of the 1920s and 1930s. With Canning's work, in particular, the courage and endurance of the explorer were matched by the scientific resolution of the surveyor, thus completing the journey begun eighty years earlier by John Septimus Roe. **Western Australian Institution of Surveyors**

See also: Cartography; Exploration, land; Foundation and early settlement; Group settlement; Land settlement schemes; Rabbit-proof fence; Stock routes
Further reading: J. L. B. Jackson, *Not an idle man: a biography of John Septimus Roe: Western Australia's first surveyor-general, 1797–1878* (1982); J. Anketell, *Walker in the wilderness: the life of R. J. Anketell* (1998)

Sustainability There are many and varied definitions of sustainability but all refer to the ways in which governments, businesses and communities can move forward and plan for the future. All involve ensuring that social, economic and environmental issues are addressed in making decisions that affect future generations.

The concept of sustainability emerged in the late twentieth century as a response to the growing social and environmental problems facing humanity. In 1987 the United Nations World Commission on the Environment and Development published *Our Common Future*, more commonly known as the Brundtland Report, which defined sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. The publication of *Our Common Future* and the work of the World Commission on Environment and Development laid the groundwork for the convening of the 1992 Earth Summit and the adoption of Agenda 21, the Rio Declaration and to the establishment of the Commission on Sustainable Development.

The Gallop Labor government assumed office in 2001 with a commitment to ecologically sustainable development and established a Sustainability Policy Unit in the Department of Premier and Cabinet to develop a strategy to promote, monitor and report on progress towards sustainability in the state. The state's *Sustainability Strategy* was released in September 2003, after broad community and government consultation, and established Western Australia as a national leader in sustainability. It defines sustainability as 'meeting the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity'.

In January 2004 State Cabinet endorsed the establishment of a Sustainability Roundtable chaired by Professor Peter Newman. Its role included advising the premier on approaches to support the state's *Sustainability Strategy*; and measuring and reporting on progress towards the implementation of the 336 actions required of state agencies

under the terms of the Strategy. However, in economic boom times it is difficult to ensure that the social and environmental 'bottom lines' are given as much prominence as the economic. With the change in premier after the resignation of Dr Geoff Gallop in January 2006, the state government's commitment to sustainability wavered. One of Premier Alan Carpenter's first actions was to relocate the Sustainability Unit to the environment portfolio. The Sustainability Roundtable was then abolished and the proposed sustainability legislation abandoned. **Sue Graham-Taylor**

See also: Conservation and environmentalism; Environment

Further reading: Department of Premier and Cabinet (WA), *Hope for the future: the Western Australian state sustainability strategy: a vision for quality of life in Western Australia* (2003); World Commission on Environment and Development, *Our common future* (1987)

Swan River mania is the term that was used to describe the blaze of publicity that the Swan River colony generated in Britain in 1829. Swan River mania erupted in the spring of 1829 and collapsed spectacularly in January 1830.

The Swan River colony became the focus of public attention for two reasons. The April 1829 issue of the influential *Quarterly Review* contained a glowing article about the new colony that, although unsigned, was widely known to have been written by John Barrow, the Admiralty secretary, who had been responsible for Britain's decision to colonise Western Australia. At the same time the press learned of the grant that had been reserved for Thomas Peel, and some newspapers used it as a means of attacking Robert Peel, then Home Secretary, for alleged favouritism to his relative.

Bad publicity, however, is better than no publicity, and the Swan River colony became the focus of a nineteenth-century equivalent to a modern media frenzy and considerable wishful thinking. Even though the information available in Britain about WA was minimal, many Britons became convinced that the new colony was the 'land of promise', an Antipodean paradise free of Britain's problems, where thousands of acres of fertile well-watered land could be obtained by anyone who cared to emigrate.

The Swan River bubble was deflated in a spectacular fashion in January 1830, following the arrival in Britain of the first news from the colony. The first batch of mail from Swan River, containing the official dispatches and the colonists' letters, was carried by the ship *St Leonard*, which left Cockburn Sound on 22 September 1829, bound for Mauritius. At Mauritius the mail for Britain was transferred to the *Dryade*, which made only one stop on the homeward voyage, at St Helena. The Solomons, a family of shopkeepers on the island, heard from the captain of the *Dryade* some stories that he had picked up at Mauritius from the captain of the *St Leonard*, and passed them on in letters to correspondents in Britain. These letters, however, were sent in another ship, the *Madras*, which reached England before the *Dryade*, arriving at Plymouth on Saturday 23 January 1830. The letters were leaked to the London press two days later. In a reversal of what had happened in 1829, the press inflated the information in the Solomons' letters. All manner of rumours were current; it was even said that the colony had been abandoned. The *Dryade* arrived at Deal, on the Kent coast, on Tuesday 26 January, and on Wednesday the Colonial Office issued a statement refuting the rumours of disaster. But the damage had been done. The Swan River colony was no longer the 'land of promise' but a failure. It was to live with that image for many decades afterwards. **Ian Berryman**

See also: Foundation and early settlement; Historical imaginings; Peel settlement scheme

Further reading: I. Berryman (ed.), *Swan River letters* (2002); J. M. R. Cameron, *Ambition's fire: the agricultural colonization of pre-convict Western Australia* (1981)

Swan Valley The Swan Valley, the geographical feature between the Swan and Helena River confluence and Walyunga pool in the Darling Range, played an essential part in Western Australia's successful colonisation. The area was surveyed by the French in 1801 and by the British in 1827, led by Stirling. This later examination resulted in the decision to settle the Swan River area and influenced the settlement's early character as a free, agrarian settler society.

European land practices displaced the local Nyungah from traditional hunting and ceremonial locales in the Swan Valley and led to cultural tension and conflict. Today, Nyungah people still live in the area. An archaeological site at Upper Swan dates back to 39,000 years, indicating the long connection of the Nyungah with the Swan Valley.

The Swan Valley's architecture and dwelling size varied over time, with two- or three-room cottages (Haddrill's house at West Swan) and the double-storeyed, multi-roomed Georgian-style Henley Park and Ellen's Brook homesteads, built between 1831 and the 1850s. Larger homesteads like Belvoir were constructed in the late 1880s. Most dwellings used local materials, with clay-based soil in wattle and daub, mud-bat (pise), brick or eucalyptus timber in split-slab dwellings. She-oak (*Casuarina*) shingles or thatched xanthorrhoea fronds were first used on roofs.

Despite limited fertile soil, the area produced much of the Swan River colony's grain (wheat and barley) and other foodstuffs during most of the nineteenth century. However, local poisonous plants stymied grazing in the early years that encouraged exploration inland for new pasture and agricultural land.

The Swan Valley is noted for its viticulture, an industry begun in the 1830s and expanding greatly from the 1880s to make the Swan Valley a premium wine-producing area today. Local clay deposits provided the resources for a brick-making industry that started with the first European settlement and continues as a significant local industry today.
Shane Burke

See also: Agriculture; Building construction; Exploration, land; Foundation and early settlement; Rivers, Avon, Swan, Canning; Wine
Further reading: M. J. Bourke, *On the Swan: a history of Swan District, Western Australia* (1987)

Swimming is Australia's most successful Olympic sport and Western Australians have played a major role in this accomplishment. The sport in WA officially commenced in Kalgoorlie with the formation of the Western Australian Amateur Swimming Association (WAASA) in 1902. A similar body was then formed in Perth and the Kalgoorlie organisation agreed to allow the metropolitan association to be the parent institution. The state entered its first Australasian championships in Melbourne in 1905, the small team competing against swimmers from Victoria, NSW, Queensland and New Zealand. WA did not compete in 1906, but took part in the 1907 championships in Christchurch.

A lack of facilities hindered WA swimmers during the first six decades of the twentieth century. The Lord Forrest Olympic Pool in Kalgoorlie was the state's first swimming pool, opening in December 1900. The complex was upgraded to Olympic size in 1938, however, that was of little help to the state's best swimmers, who were Perth-based and competed in the Swan River at Crawley and at Claremont Baths, where performances were affected by the vagaries of tide, chop and wind. The Kalgoorlie pool remained Western Australia's only Olympic-size swimming pool until the Beatty Park Aquatic Centre was constructed in 1961 to host the swimming and diving

events at the 1962 British Empire and Commonwealth Games.

WA has had a strong history in swimming, with local winners of Commonwealth Games' gold medals including Percy Oliver (1938), Evelyn de Lacy (1938), Dorothy Green (1938), Garrick Agnew (1950), David Dickson (1962, 1966), John Ryan (1966), Lynne Watson (1970), John Kulasalu (1974), Peter Evans (1982), Neil Brooks (1982, 1986), Sarah Thorpe (1986), Thomas Stachewicz (1986, 1990), Ian Brown (1990), Matthew Renshaw (1990), Rachel Harris (1998), Julia Greville (1998) and Todd Pearson (2002). Five WA swimmers have won Olympic gold medals. Lyn McClements caused a major upset in the rarefied air of Mexico City to take out the women's 100-metre butterfly in 1968. Neil Brooks and Peter Evans were members of the Australian men's 4 x 100 metres medley team which won gold at the Moscow Olympics in 1980; and in Sydney in 2000, Todd Pearson (4 x 100 metres freestyle and 4 x 200 metres freestyle) and William Kirby (4 x 200 metres freestyle) won relay gold medals. In one of the best performances in the history of the annual Australian championships, Percy Oliver won seven of the eight men's events in 1940: 100

The pool at Youanmi in the Murchison Goldfields, 1932. This may be the first private swimming pool in the state utilising salty water pumped up from the underground during mining operations. Photographer, Stuart Gore. Courtesy Battye Library (004352D)

yards, 220 yards, 440 yards, 880 yards and 1,650 yards freestyle, 100 yards backstroke and 330 yards individual medley.

In 1983, as a part of the evolution of the changing world of sport, the word 'amateur' was omitted from the state governing body's name, which became the Western Australian Swimming Association (WASA).

WA has several annual long-distance swimming races, with the oldest being the Swim through Perth, which was first held in 1912. The distance has varied from three to eight kilometres. In 1956, German professional spear-fisherman Gerd von Dincklage-Schulenburg, at the age of twenty-six, became the first person to swim from the metropolitan mainland to Rottnest. He clocked 9 hours and 45 minutes, while in 1969 twenty-three-year-old local Lesley Meaney became the first woman to swim the crossing, completing the arduous distance ten minutes faster than von Dincklage-Schulenburg had achieved.

Western Australian Shelley Taylor-Smith developed into a brilliant endurance swimmer in the 1980s. She was the International Marathon Swimming Federation's No. 1 woman competitor in 1988–94 and also won the inaugural world women's long distance title over 25 kilometres in Perth's Swan River in 1991. Her successes sparked enormous interest in endurance swimming, resulting in the establishment of the Cottesloe to Rottnest race, a distance of 20 kilometres, in February 1991. That inaugural event, which attracted forty-three competitors, is still held annually on the third Saturday in February. The ocean-water classic now regularly attracts more than two thousand participants and has grown enormously in popularity, as have other shorter swims, such as the annual Cottesloe to Swanbourne event. In 1994 Barbara Pellick became the first person to make a double crossing under the rules adopted the previous year by the Rottnest Channel Swim Association for multiple crossings.

Four Western Australians have successfully swum the English Channel. The first was

Taylor-Smith, who completed the gruelling test of endurance in 9 hours and 27 minutes. Tamara Bruce clocked 7 hours and 13 minutes for the world-famous crossing in 1994. That time was only thirteen minutes outside the record set in 1978. Pellick (1995) and Mark Crowther (2003) are the only other WA swimmers to have completed the Channel swim. **David Marsh**

See also: Empire and Commonwealth Games; Swimming baths; Western Australian Olympic medallists (list)

Further reading: N. Duncan, *At the deep end: A century of Goldfields swimming* (2001); L. Meaney, *Why swim to Rottnest when you can catch the ferry?* (1994); B. Stoddart, 'Sport and society 1890–1940: a foray', in C. T. Stannage (ed.), *A new history of Western Australia* (1987); S. Taylor-Smith with I. Cockerill, *Dangerous when wet: the Shelley Taylor-Smith story* (1996)

Swimming baths In 1978, when the owner of the Nedlands Baths reluctantly decided that his business was no longer profitable, it was the end of an era. Commencing in the 1890s, swimming baths—that is, buildings in the Swan River or sea containing a shark-proof public swimming pool—had been venues for paddling, diving, frolicking, flirting, swimming, water polo, 'learn to swim' and lifesaving classes. Families such as the Pedersens, Christies and Howsons spent their lifetimes leasing or owning these increasingly dilapidated structures where generations of bathers endured jellyfish, waves and chop whipped up by the sea breeze, mud, and the sometimes odious smell as overflowing lavatory pans spilled their unsavoury contents into the river.

Beginning with the building of the Perth Esplanade Baths in 1897, followed by Peppermint Grove (1898), the Perth metropolitan area soon enjoyed an efflorescence of such facilities. The Claremont Baths opened in 1901, those at nearby Nedlands in 1902–03, while the City Baths at Crawley—Crawley Baths, as they soon became known—opened in 1914. Reflecting Victorian rather than Edwardian standards of morality, all three had separate swimming areas for women and men, a divide which for a decade or so encouraged the daring to challenge this aquatic segregation.

Fremantle kept pace, its inhabitants enjoying the facilities of the Fremantle Sea Baths on the foreshore opposite Arundel Street. Built in 1897 by a private company and demolished by storms thirteen years later, the baths advertised 'Hot & Cold Sea', thereby appealing both to the delicate and the hardy. They were replaced by the Municipal Sea Baths in 1907, 'second to none in the Commonwealth with their one and a half acres of water for men, and half that area for women'. Contemporary accounts fail to mention where in these baths Thursday 'Continental Nights' were held, when there was eagerly anticipated 'mixed bathing'. Best known of all Fremantle's baths was the shark-proof enclosure at South Beach, opened in 1909 and eventually destroyed by winter gales in the mid 1950s. There were also the East Fremantle Baths (1900–29), today almost forgotten, on the riverbank near the Left Bank restaurant, as well as the colloquially known 'Bicton Baths' (not fully enclosed), which opened in 1926 and are still in use today.

Besides recreational swimming, the Crawley, Nedlands and Claremont baths were homes to swimming and water-polo clubs, which held regular summer carnivals and competitions. Claremont was the first to have a fifty-five-yard 'Carnival pool', which, in 1923, was the venue for the Australian Swimming Championships. In 1933, amid Crawley's eight-acre playground, a similar pool was built. Three years later the tiered seating around it was enlarged, making it the state's premier baths for competitive swimming until Beatty Park was opened in 1962. Meanwhile, despite their 'hygienic defects',

all baths remained summer magnets for children and adolescents in particular, eager to spend hours swimming and/or ogling.

After the polio epidemics of 1953–54 and 1955–56, supposedly polluted river water gradually lost its attraction. The appearance of new enclosed pools in Perth and its suburbs resulted in the Crawley Baths being demolished in 1964, and those at Claremont eight years later. Only the Pedersen family, resident owners of the Nedlands Baths, battled on, until they too were forced to throw in the towel. **Ed Jaggard**

See also: Beaches; Poliomyelitis epidemic; Surf lifesaving; Swimming; Water polo

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Taxation can be defined as compulsory payments to the government used to fund public services. In Western Australia the state taxes raised are appropriated to the Consolidated Fund and are expended for the provision of state-funded services such as education, health, and law and order.

From Governor Stirling's time, and until Federation, customs duties levied on goods imported into the colony were the main form of taxation. Under the premiership of John Forrest and with the boom in mining activity at that time, duty on company dividends was introduced in 1899 and raised until 1937. Stamp duty applied to receipts (1882–1970) was the forerunner of the stamp duty currently imposed under the *Stamp Act 1921*. Probate, or death duty, (1895–1979) was one of the longest-standing and most important sources of revenue to the state. With Federation and the enactment of the Commonwealth Constitution, the Commonwealth gained exclusive power to impose duties of custom and excise. Land tax and personal income tax were both introduced by the state in 1907, with the Commonwealth using special defence powers to take over the collection of all income tax in 1942. After the war the Commonwealth denied the states access to income tax (a decision upheld by the High Court in 1955).

The Depression of the 1930s saw the introduction of a financial emergency tax (1932–1942) on salaries and wages. In addition to the dividend duty, goldmining companies were also subject to a profits tax from 1934 to 1942. Entertainment tax (1925–1961) was applied to entertainments such as cinemas, dancing, theatres and horse-racing, for which admission was charged. A motor vehicle third-party insurance surcharge (1963–1988) was introduced to fund costs associated with traffic control and health associated with road accidents.

In the early twenty-first century, the principal state taxes are stamp duty, land tax and payroll tax administered by the Commissioner of State Revenue under the *Taxation Administration Act 2003*, raising $1,976 million, $315 million and $1,226 million respectively in the 2004–05 financial year. Stamp duty is raised on a broad range of commercial transactions (insurance, mortgages, motor vehicles, conveyances and transfers). Land tax is an annual tax based on ownership and usage of land calculated on the aggregated unimproved value of the total land holdings. A range of marginal rates applies to stamp duty and land tax. Payroll tax is paid monthly or annually by employers at a single marginal rate on the total wages paid to employees in excess of a threshold. Betting and metropolitan region improvement taxes also contributed to the collection of a total of $3,721 million in state taxes for the 2004–05 financial year. **Phillip Winn**

See also: Commonwealth, relations with; Politics and government; Public service
Further reading: J. P. Smith, *Taxing popularity: the story of taxation in Australia* (1993); P. McDonald, B. Smith et al., *The Taxpayer's Guide 2003–2004 (84th edition)* (2003)

Teacher training in Western Australia began in 1862 when pupil-teachers were indentured

and received tuition from schoolmasters. After 1899, non-indentured monitors part-trained in schools until 1951. Economic development in the 1890s resulted in an increasing population and rising demand for teachers. To meet demand, the Education Department, on the initiative of Cyril Jackson, opened Claremont Training College (CTC) in 1902. It became a major influence in the professionalisation of teaching. Under William Rooney, principal 1903–27, the college offered a broad, two-year course and, later, short courses for rural teachers. Links to The University of Western Australia (UWA), which introduced education courses in 1916, were consolidated by Robert Cameron, jointly Professor of Education at UWA and principal of CTC, 1927–45. Under Cameron, the university offered a post-graduate diploma in education in 1929 and a bachelor of education in 1947. It concentrated on academic education, while the college focused on professional teaching. Cameron's suggestion that the university absorb the college was controversial: the institutions separated administratively in 1945.

Demand for teachers expanded when men were drawn into armed services during the world wars and when bush schools were established after 1903 and in the 1920s to service the Wheatbelt and group settlements. Teacher shortages were heightened by the Education Department's requirement that female teachers resign upon marriage. To increase numbers, short courses were offered by CTC; and small numbers of Catholic sisters trained for teaching at Victoria Square in 1938–42. A claimed surfeit of teachers and financial stringencies led to the closure of CTC during the Depression years 1932–34. The two-year course was not resumed until after 1945 when Thomas Sten's reorganisation emphasised depth of study and personal development.

The baby boom and migrant influx after 1947 caused an explosion in the demand for teachers. Students were paid allowances that facilitated access to teacher training. New

Teachers' Training College, Claremont, n.d.
Courtesy Heritage Council of WA (P00482)

teachers' colleges were established at Graylands (1955), Nedlands (Secondary Teachers' College, 1967), Mount Lawley (1970), and Churchlands (1971). Enrolments leapt from 332 in 1950 to 5,807 in 1975. The inevitable glut was heightened by new teacher education programs in 1975 at Murdoch University and the WA Institute of Technology (later Curtin University of Technology), which absorbed the Kindergarten Training College. In 1992 the University of Notre Dame Australia also entered teacher education. Meanwhile, existing teachers were able to upgrade their short-course certificates through the tertiary institutions or the Education Department's own programs; and three-year primary teachers' courses were introduced.

The colleges separated from the Education Department in 1973 to become constituents of the Teacher Education Authority and fully autonomous colleges of advanced education by 1979. Autonomy and Commonwealth funding facilitated innovation, notably Robert Peter's introduction of student-centred learning at Mount Lawley College.

Commonwealth policies then reduced teacher-training numbers and sought

economies of scale in consolidated tertiary institutions. Under duress, the WA colleges were amalgamated to form the Western Australian College of Advanced Education in 1982. This became Edith Cowan University, under Douglas Jecks, in 1991. Rationalisation had seen the closure of Graylands College in 1979 and the Nedlands campus in 1982. In 1989, teacher education ceased at Claremont. Further funding reductions in the new century saw teacher training become under-funded programs in all five universities, under state legislative jurisdiction but with Commonwealth policy direction. **Lynne Hunt and Janina Trotman**

See also: Edith Cowan University; Education, early childhood; Education, government secondary; Education, primary; University of Notre Dame Australia

Further reading: F. Alexander, *Campus at Crawley: a narrative and critical appreciation of the first fifty years of the University of Western Australia* (1963); G. C. Bolton and G. Byrne, *The campus that never stood still: Edith Cowan University, 1902–2002* (2001); L. Hunt and J. Trotman, *Claremont cameos: women teachers and the building of social capital in Australia* (2002); J. A. McKenzie, *Twenty-five years: a history of Claremont Teachers' College 1952–1977* (1981)

Technical education in Western Australia began in May 1900 when Perth Technical School opened in the old Boys' School building in St Georges Terrace. From the beginning, courses were available to both boys and girls. The superintendent of technical education, Alex Purdie, introduced a curriculum that included chemistry, assaying, engineering, art and design, woodwork and metalwork. He died unexpectedly in 1905, having established additional technical schools at Fremantle, Claremont, Midland Junction, Kalgoorlie and Boulder. Purdie's

successor, Bernard Allen, was also Director of the Kalgoorlie School of Mines. By 1924 he had overseen a substantial building program that improved the makeshift facilities in which students had initially been forced to work. An impressive purpose-built technical school had been opened in Perth in 1910. Its location at 137 St Georges Terrace, and the motto 'Truth, Beauty and Utility' emblazoned above its entry, expressed the era's high hopes for technical education. Allen had also extended the curriculum to include blacksmithing, carpentry, engine driving, fitting and turning, plumbing, commercial studies, pharmacy and surveying.

Prior to 1926, technical training for apprentices was not compulsory. In that year, however, arbitration court regulations compelled them to attend day-release classes for four hours each week. Technical education resources buckled under the strain. Employers complained about poor conditions, and in 1928 a Royal Commission chaired by James Nangle recommended sweeping reforms. The onset of the Depression meant Perth Technical School's name-change to College was one of few changes made. Apprentice registrations fell from 613 in 1929 to 118 in 1931, leaving James Lynch, the first Director of Technical Education, who succeeded Allen in 1929, free to expand the role of technical education. He introduced day-matriculation classes for unemployed young people who might otherwise have found white-collar employment. He also added motor mechanics, aeronautical engineering and aeroplane building and construction courses to the curriculum. By the time he retired in 1942, Perth Technical College also had new trades' instruction, domestic science and chemistry buildings.

After the Second World War, directors Leslie Phillips (1942–49) and William Hayman (1950–62) revived vocational and professional training. Apprenticeship numbers rose from 1,472 in 1944 to 4,237 in 1953. New facilities were built at Fremantle

and Kalgoorlie, metal trades moved from the college to Wembley in 1956 and motor trades to Carlisle in 1959. Leederville became the centre for building trades in 1960 and a new school was built at Midland Junction. Associate diploma courses, which had languished when The University of Western Australia opened in 1913, flourished. In 1948 the Institution of Engineers (Australia) recognised courses in structural, mechanical and electrical engineering. Various accounting bodies recognised the commerce diploma that began in 1950, and in 1951 the Royal Institute of British Architects recognised the architecture course. In 1961 and 1963 Hayman added applied science and social science courses for trainee teachers, complementing existing domestic science, art and manual training courses.

The Western Australian Institute of Technology, which opened in 1967, appropriated the associate diploma courses. Mining expansion and technological change in the workplace in the 1970s ensured diploma and certificate courses replaced them. New colleges opened at Bunbury (1971), Albany, Balga and Bentley (1974), and in 1977 Perth Technical College moved to a new campus in Aberdeen Street. This expansion was made possible by the entry of the Commonwealth government into technical and further education in 1974. In recent decades technical education has been integrated into upper secondary schooling in Vocational Education and Training programs and into university courses where advance standing is granted to diplomates. **Kaye Tully**

See also: Curtin University of Technology; Education, government secondary; School of Mines; Work, paid
Further reading: C. Sanders (ed.), *Technical education for development* (1966); M. A. White, *The community and post-school education in Western Australia: an historical study of institutional response to community demand* (1981)

Television began in Western Australia on 16 October 1959 when Channel 7 transmitted black and white images to an estimated Perth audience of 40,000 viewers, of whom 3,883 possessed a licensed set. However, Western Australians already knew about television. It was first broadcast in the eastern states in 1956 to coincide with the Melbourne Olympics and many British migrants had already experienced the medium before arriving in WA. Moreover, the local newspapers had run articles advising the new audience on a range of issues, from where to sit for best viewing, to diet and programs. The prospective audience greeted television with great anticipation. Early transmissions were often viewed from city streets as crowds of potential buyers pressed up against the windows of electrical retailers, such as Vox Adeon Howard, which enjoyed boom trading conditions with the advent of television.

The ABC Channel 2 joined Channel 7 on 7 May 1960; a second commercial broadcaster, Channel 9, began broadcasting on 12 June 1965; Channel 28 (SBS) followed in 1986; and the final commercial broadcaster, Channel 10, in 1988. The introduction of community TV (Channel 31) in 2000 completed the pool of metropolitan free-to-air broadcasters in Perth that, over a period of forty years, have gained statewide coverage through coaxial cable and microwave. With the introduction of satellite broadcasting, GWN gained a Remote Commercial Television Licence in 1984 and began a direct service to regional areas in 1986, but was subsequently replaced by WIN as the regional broadcaster. In 1999 satellites and cable combined to provide a 'pay for service' television system through Foxtel.

Channel 7, under the leadership of Sir James Cruthers, established customer loyalty through its skilful use of former local radio personalities such as Lloyd Lawson and Peter Dean. New young stars such as Gary Carvolth, Johnny Young and Carolyn Noble featured in local programs, including *Young Talent Time*, *In Perth Tonight* and *Here's*

Humphrey. Channels 9 and 10 followed Channel 7's local slant while the ABC adopted a national approach to broadcasting. This mix of local, national and global broadcasting in WA combined to create a distinctive regional television that lasted until the 1990s.

WA is now a TV-saturated culture, with most homes possessing at least two TV sets, and it is difficult to recall the limited range of the first broadcasts, which were initially confined to the afternoon and evenings. They were aimed at the Perth metropolitan area, and the federal government's policy of gradual roll-out of television services was slow. However, country people, encouraged by retailers, devised ways of accessing TV programs. Forests of antennae, often towering thirty metres above roofs, sprouted in country towns. TV also linked city and country in new ways. Country audiences watching commercial television viewed the same programs, mostly imported from the United States, as their city cousins, while those watching the ABC received British programs augmented with local and national shows. The news was distinctly metropolitan in its coverage, and the sporting scene, especially in football, became dominated by city events.

Technology precluded networking for many years. Videotape was not available until 1962. Prior to that, programs were purchased on 16-millimetre film and broadcast through a complex translation system. The alternative was live television, which was expensive but vibrant, and created local personalities and events such as Telethon.

The introduction of satellite broadcasting in 1985 effectively ended television's regional focus. Channel 10 gained its licence, after protracted legal proceedings, on the promise of providing a distinctive local broadcasting culture. Shortly after its successful application it was sold to the eastern states Channel 10 group, which used satellites to create a national network. Channel 7 and Channel 9 soon followed suit.

The advent of satellite broadcasting in effect ended the era of local television in WA. At the same time, however, the move to a national television industry also provided the opportunity for local entrepreneurs to enter the national scene. In 1987 Alan Bond purchased the National Nine Network from Kerry Packer for approximately $1 billion, only to sell it back for $200 million in 1990. Kerry Stokes took control of the Seven Network in 1997, and while Channel 7 consistently out-ranks its competitors in WA it is to all intents and purposes a diversified media company with headquarters in Sydney.

The introduction of satellites heralded a major technological shift called convergence, where the media, computing and telecommunications came together to provide a range of sophisticated services. Television has moved beyond the simple monochrome service of the 1950s and 1960s to include digital broadcasting and transmission of high-definition images via telephone to a laptop computer.

It is impossible to imagine contemporary life without television. It is the primary source of our news and entertainment and it instantly relays great global events into our homes. In many respects it is television that has ended Western Australia's sense of isolation. **Brian Shoesmith**

See also: Communication; Isolation; Journalism
Further reading: T. O'Regan and B. Shoesmith (eds), *The moving image: film and television in Western Australia, 1896–1985* (1985)

Tennis The modern rules of tennis, with minor modifications, were cast by the cricket establishment in Victorian England to govern the first 1877 Wimbledon tournament. In Western Australia the game had its beginnings in the family homesteads of well-to-do citizens, with the first records of 'handicap' tournaments for men and women being traced to Government House in the

winter months in the 1880s. With the onset of the gold rushes this basis of tennis was inadequate to cater for a more competitive organisation of the game. However, initial attempts to create a tennis association were thwarted, mainly due to rivalry over control of major tournaments between emerging Perth and Fremantle clubs. The desire, in some quarters, to retain tennis as a winter game to accommodate the large number of cricketers who played tennis was another hurdle. Eventually, in 1903, the Western Australian Lawn Tennis Association (known as WALTA) came into permanent existence on the basis of only half a dozen small suburban clubs, and a Stock Exchange team.

'Lawn' tennis was advanced by the conduct of a State Open and other tournaments, an inter-club pennant competition and interstate contests after the Lawn Tennis Association of Australia (LTAA) was created in 1904. In 1909 WALTA was allocated the Australasian Open, held at the zoo grounds in South Perth. At that time the Open was restricted to a men's singles and doubles championships. Ladies' championship events, which were on the WA Open calendar from 1896, began at the national level in 1922. In 1913 the Australasian Open was again played in Perth at Mueller Park in Subiaco. On this occasion Ernie Parker, the champion singles player of the previous decade (and also a state cricketer), won the title. Parker had lost the 1909 Open final to Tony Wilding, the great Davis Cup player and Wimbledon champion. However, attempts to gain a Davis Cup fixture in Perth, which had already captured the imagination of the sporting public, were not successful. In 1921 the Australasian Open returned to Perth, but few top players came west to compete. The venue was the picturesque Kings Park Tennis Club, which had begun as the Mount Club in 1898, thereafter becoming the 'Mecca' of tennis in the state, as the location for hallmark tennis matches.

The quest to produce champion Australian players and establish a permanent tennis centre proved elusive over the coming decades, although, in terms of participation, the 1920s and 1930s have sometimes been labelled as the 'golden age of tennis'. The game became very popular in many country towns, with the easily built courts often becoming a centre of social activities. The Country Week tennis carnival dates from 1923, and at the same time school tournaments grew in number. The Catholic Tennis Association also strongly promoted tennis as a family game.

Soon after the Second World War, Clive Wilderspin became a household name in WA, partly because he epitomised some of the best attributes of the sport—athleticism, sportsmanship and determination. Nevertheless, despite some fifteen seasons as the top-ranked male player in the state, Davis Cup selection eluded him. It was not until Margaret Court (née Smith) moved to Perth from Albury in New South Wales before her famous 1970 Wimbledon win over Billie-Jean King, to build on her formidable 'grand slam' record, that the state could boast a leading international player. In the mid 1970s, after professional tennis became established, Lesley Hunt reached the world's top ten women.

From 1968 the determination of administrators to retain the amateur status of tennis was overcome with the conduct of the first 'open' Wimbledon. At the international elite level, tennis became a 'big money' game, but for WALTA the quest for sponsorship contracts sometimes proved difficult. Gradually, many clubs replaced their grass courts with artificial surfaces and coloured attire was permitted, in addition to the traditional white. From late 1988 the tennis public in Perth was able to view international tennis at the Burswood Dome each year. Named the Hopman Cup, after tennis legend Harry Hopman, the concept of a men's and women's singles and mixed doubles format was attributed to former players Charlie Fancutt and Paul McNamee. Pat Cash, who had won Wimbledon in 1987, was also involved, and

with Hana Mandliková he played for Australia in the inaugural contest during the Christmas holiday break. Although continuance of the tournament has occasionally been under threat, between 40,000 to 80,000 spectators have annually witnessed many of the world's top-ranked players in action.

While the Hopman Cup required modern marketing and business planning, the same demands were faced by WALTA, which was most dependent on volunteers. New logos were adopted and, in keeping with an earlier move by the LTAA to use a trading name (Tennis Australia), the acronym WALTA was cast aside for Tennis West. Meanwhile, in 1994, after many years of negotiation, Tennis West opened a new Tennis Centre at Burswood.

Although tennis is an international sport that can be played by most age groups, and by both men and women of varying physique and standard, Tennis West has simultaneously faced the challenge of fostering the broad base of the game and developing elite players for the international circuit. **Harry C. J. Phillips**

See also: Sport history
Further reading: P. Adamson, *Our club: a history of the Cottesloe Tennis Club* (1992); H. Phillips*, Tennis West: a history of the Western Australian Lawn Tennis Association from the 1890s to the 1990s* (1995)

Textiles, clothing and footwear, initially part-time cottage industries, developed into small manufacturing enterprises in Western Australia in the late nineteenth century, enlarging and consolidating during the gold boom. After Depression and wartime rationing, small businesses blossomed in the 1960s, but, although specialist niche-market products continued to be developed, most declined in the global economy of the late twentieth century.

Boots, shoes, silk slippers, straw hats, feather pelerines, possum-fur apparel and even umbrella coverings were made in colonial WA. However, the making of textiles has been less prolific. Until the early twentieth century most fashion garments were made from fabrics imported as dress or suit lengths.

Earliest settlers included dressmaker and milliner Jane Hyde, tailor John Miles and shoemakers John Croker and William Leeder. The latter turned to more lucrative pursuits, being replaced by discharged soldiers who often combined boot-making with farming. Weavers such as Margaret McGorman made clothing and stockings in the 1840s. A considerable number of needlewomen arrived in the 1850s and 1860s. They produced 'whitework', the fine *broderie anglaise* required for undergarments and nightwear, while numerous seamstresses made up clothing. In the convict era hundreds of men turned to tailoring and boot- and shoe-making after gaining their tickets-of-leave.

A measure of prosperity in the 1870s enlarged the population and saw the production of fine silk cloth by Louis and Helena Beurteaux. By the 1880s there were numerous tailors and dressmakers scattered through the various settlements. A number, such as the Misses Wood in the 1870s and the Misses Stamp in the 1880s, doubled as haberdashers and milliners, while a few tailoring and boot-making factories were set up. Notable were John Christie, a boot-maker who opened a shop in front of his William Street factory in the 1870s and won a prize in the 1886 Colonial and Indian Exhibition, and Pearse Bros, who established a boot factory in Fremantle in the 1880s employing 240 patternmakers, leather-cutters, machinists and finishers.

Federation, and the consequent removal of 'protection' for local industries, saw many newly opened businesses wither. By 1906 there was considerable concern and a 'buy WA' campaign—the first of many—commenced. In this year there were 12 boot and shoe manufacturers, 47 dressmaking firms, 58 tailors and clothiers and 6 shirt and underwear factories in operation, employing

in total 2,058 workers. The definition of a factory meant four or more workers or use of electric machinery. Exhibitors in the Chamber of Manufacturers in 1906 included department store Boans (with fashion items) and Strand Hats. Other enterprises were Bon Marché, Aherns, Economic Stores, Foy & Gibson and the House of Brennan, who all made 'in house' ranges as well as importing ready-to-wear. Early twentieth-century tailors of note included Grieg, Parker & Co., Harald & Co. and G. D. Ctercteko. The Western Australian Boot Manufacturing Company (apparently another name for Pearse Bros) reputedly made 100,000 pairs of boots in 1911. With the advent of the First World War, women relatives of dead or injured soldiers were offered training as milliners and dressmakers to enable them to support their families and work from home.

In the prosperity that followed the war, the WA Worsted and Woollen Mills were established in Albany to add value to the local product. Funded by public subscription, it was the largest company in the state when it opened in 1925. The enterprise made worsted cloth, yarns, flannel and blankets marketed under the Porongorups label. Contracts to supply uniform fabrics and blankets for government institutions assisted the company. From the 1960s the company also dyed and made yarns for knitting. Acquired by Robert Holmes à Court in 1970 and reorganised by manager James Morrison, the mills successfully made carpet yarns supplying artist craftspeople as well as industry. After the stock market crash of 1987, the company was acquired by Bond Corp. and the name changed to Albany Woollen Mills. With the demise of Bond in the 1990s the mills were acquired by Indonesian interests, allowed to run down and eventually closed, with the machinery being transferred to Indonesia.

In the 1930s most clothing factories were small scale, averaging eleven people. During the Second World War, most of the production of boot-maker Weaver went to the armed forces, as did that of the National Clothing Company. Firms of the time included: Perth Footwear; general clothier Goode Durrant & Murray, with twenty-one brands in their stable; Reliance Manufacturing Co., making underwear, shirts and raincoats; Superior Knitting Mills, with their Sekem brand; WA Knitters, who made men's underwear and sports clothes; and Roland Smith & Co., making Rosco and other brand-name shirts and pyjamas.

Wartime rationing was abandoned in 1947 and the number of the state's clothing factories increased. With price control abolished in 1952 further expansion took place. Jean-Jean, the French dressmaker, was still in demand by the discerning, Belle Gladstone's hats were an institution, and soon handmade shoes were obtainable from Bodkin's Bootery.

Made-to-measure tailoring and dressmaking declined markedly between 1951 and 1963 with the transition to ready-to-wear. This forced changes in production. Section work was adopted by some factories, migrant labour was available, and the workforce changed from young singles to married women. The male-dominated unions in this industry, which operated on low profit margins, had little regard for the low salaries and pressures to increase production felt by the many female migrant workers. Perth Clothing Co. was one firm that engaged in the 'cut–make–trim' manufacture of trousers for eastern states' firms. Weaving and fabric printing, which had a resurgence in the 1960s, remained the province of handcraft industries, with Marie Miller and Helen Grey-Smith prominent nationally.

WA had a very small percentage of the national clothing trade—a mere 5.2 per cent in 1960—due in part to the problems of supply of raw materials, capital and labour. Busy factories supplied a quarter of the local market. These included G. & R. Wills and Morris & Co., with their Style Mark and other labels. Nevarda shirts lasted in business into the twenty-first century. The small

size of the factories allowed flexibility and there was still tariff protection from cheap imports. In 1951 there were approximately 450 textile and clothing factories, but by 1970, with the addition of footwear, this had dropped to 109, and in 1975 to a mere 77. The 1970s revaluation of the Australian dollar and 25 per cent reduction of duty on imports had made quite an impact; however, Sunseeker, Dreske-Somoff, Tony Barlow and others expanded nationally, while Liz Davenport and Ruth Tarvydas went international. The international shift in purchasing power to a younger age group saw the decline of couture dressing, but hand-altered fabrics and the rise of labels such as Aurelio Costarella, Pierucci and Empire Rose at the turn of the century continued to provide very individual clothing to the state's niche markets. **Dorothy Erickson**

See also: Craft practitioners; Fashion industry; Manufacturing

Further reading: C. Owen, 'The Politics of Experience: Women in the Western Australian Clothing Trade, 1950–1970', in P. Crawford (ed.), *Women in Western Australian history: Studies in WA History*, 7 (1983); A. R. Peterkin, *The industrial development of Western Australia: a handbook of information on the primary and secondary industries of the state* (1942)

Theatre, amateur Sustained by community volunteers, Western Australia's amateur theatre groups have generated a significant proportion of the state's theatre. Local theatre production during the nineteenth century was almost exclusively amateur, the population and infrastructure being insufficient to sustain large-scale professional touring productions until the mid 1890s. Colonial groups such as Perth's Gentlemen Amateurs, Fremantle's Amateur Dramatic Club, the Minstrels of the West and Geraldton's Amateur Theatrical Company favoured conservative repertoires of short British comedies, burlesques, minstrelsy and the occasional melodrama. Although amateur theatricals had been associated from the first in 1839 with the colonial establishment, their class basis diversified with the times.

With the decline of commercial theatre after the First World War, the state's amateur groups, notably the Perth Repertory Club, the Workers' Art Guild, Garrick Theatre, the Mercury Players and Patch Theatre, set competent standards, encouraged actors and directors, introduced modern theatre to Perth audiences, and significantly fostered local playwriting. The Perth Repertory Club and its regional affiliates dominated the state's theatre from 1919, until it and Perth's Company of Four were incorporated into Perth's first semi-professional National Theatre Company at the Playhouse in 1956.

Through its State Drama Festivals from 1949 to 1971, the Theatre Council of Western Australia continued to foster local playwriting and provide a forum for amateur groups such as Q Theatre, the Independent Players, the Therry Society and The University of Western Australia dramatic societies. The Independent Theatre Association of WA, founded in the early 1980s, is an umbrella organisation for more than sixty independent, community and amateur theatre groups across the state. The Association presents an annual Dram Fest and Robert Finley Award for full-length play productions, and maintains a skip library, a website, a biennial conference and a youth outreach program. Its membership includes the Floreat Players, Harbour Theatre, Melville Theatre Company, Roleystone Theatre and the Goldfields Repertory Club. **Bill Dunstone**

See also: Children's theatre; Drama festivals; Goldfields theatre; Theatre and drama; Workers' Art Guild; Youth theatre

Further reading: T. A. Craig, 'Radical and conservative theatre in Perth in the 1930s', in J. Gregory (ed.), *Western Australia between the wars 1919–1939: Studies in WA History*, 11 (1990); B. Dunstone, 'Imperialist

discourses: theatrical performances in Perth to 1854', *Australasian Drama Studies*, 23 (1993); B. Dunstone, 'Performing colonial bodies and (as) work', in P. Tait (ed.), *Body show/s: Australian viewings of live performance* (2000); D. Hough, 'The Playmakers', in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); P. Parsons (ed.) with V. Chance, *Companion to theatre in Australia* (1995)

Theatre and drama in colonial Western Australia reflected British tastes for amateur theatricals, comedy, minstrelsy, melodrama and pantomime. From the 1860s visiting equestrian shows, illusionists, dioramas and circuses were popular. Local theatre was exclusively amateur, the population and infrastructure being insufficient to sustain large-scale production. Amateur theatre was advocated as a social benefit, though its moral status was sometimes questioned, and class distinction remained a factor. Early performances were fitted up in Perth's hotels, Court House and Teetotal Hall. The Swan River Mechanics' Institute Hall was the city's stage from 1855 until the Perth Town Hall opened in 1870. Few records of local playwriting survive, apart from W. J. Robson's *The Duel; or, the Moral Coward* and *Old Love and Young Love; or, Never Too late to Mend* (1860), and Henry Prinsep's comedies for amateur theatricals at Government House (1875–90). The colony's first theatre event was a private amateur performance of a comedy, *Love à la Militaire*, at Leeder's Hotel, Perth, in July 1839. Controversy surrounding the appearance of women on stage encouraged male cross-dressing, a practice still popular in the regions in the 1880s. Perth's amateur theatre opened to a wider public as successive companies were constituted.

Beyond Perth, the Royal Engineers built and performed in the Theatre Royal at Fremantle's Emerald Hotel in 1858. Fremantle's Amateur Dramatic Club established itself at Fremantle's Freemasons' Hotel in 1865. The Geraldton Amateur Dramatic Company opened its theatre in Geraldton's Masonic Hall in 1880. From the 1860s, visiting performers toured the regions, usually playing in hotels and halls.

Theatre flourished in response to increased population, wealth and infrastructure generated by the 1890s gold rushes. Perth's outdoor Cremorne Gardens hosted touring vaudeville artists from 1895. Australian and overseas professional companies played at Perth's Theatre Royal from 1897; and at the King's Theatre, Fremantle, and His Majesty's Theatre, Perth, from 1904. Major companies toured the Eastern Goldfields, Coolgardie's Theatre Royal presenting touring companies from 1894. Kalgoorlie's open-air Tivoli Theatre opened for vaudeville in 1897, being roofed as Her Majesty's Theatre in 1900. Kalgoorlie, Boulder and Albany town halls were major performance venues, and many short-lived regional and metropolitan venues opened.

Western Australia's theatre since 1920 has been shaped by the growth of local playwriting and professional theatre, art-form diversification, the emergence of Indigenous theatre, and the development of infrastructure. With the decline of commercial theatre between the wars, amateur groups, notably the Perth Repertory Club (1920) and the Workers' Art Guild (1936), fostered local performers, directors and writers. The Repertory Club's annual State Drama Festival competitions, begun in 1937, presented significant new plays by Australian playwrights such as Henrietta Drake-Brockman, Alexander Turner and Dymphna Cusack. Eventually suspended in favour of the war effort, the festival was revived in 1949 by the Theatre Council of Western Australia. The more radical Workers' Art Guild presented plays by Katharine Susannah Prichard. In 1956 the Repertory Club amalgamated with the Company of Four (1950), to form Perth's first resident

professional company, the National Theatre Company at the Playhouse, with a mainly British repertoire. From 1965, the Hole-in-the-Wall Theatre Company offered an alternative repertoire, including new Australian plays by Ron Elisha, Jack Hibberd and Louis Nowra. Moves to train and retain professional actors in Perth, first undertaken by the Company of Four in 1950, culminated in the establishment of the Western Australian Academy of Performing Arts in 1979.

Since 1970 the state's theatre and drama have diversified to promote local performance cultures alongside an international repertoire. The Festival of Perth (1953–) and Artrage (1983–) have contributed to this process. So have playwrights Dorothy Hewett, best known for *The Man from Mukinupin* (1979); Nyoongar man Jack Davis, whose *No Sugar* (1985) won international recognition; and Jimmy Chi, whose *Bran Nue Dae* (1990) enacts cultural interchange between Indigenous people and the communities they host. Yirra Yaakin Nyoongar Theatre (1993–) works towards Aboriginal community self-enhancement through a theatre-skills mentor program and the development of new Indigenous works. The Perth Theatre Company (1994–) supports local playwrights through its Writers' Lab and assists independent artists to produce their own work. Fremantle's Deckchair Theatre Company (1984–) focuses on contemporary works that link theatre and music, reflect cultural diversity, and give a voice to non-dominant cultures and women performers. The Black Swan Theatre Company (1991–) develops new Western Australian and Australian works, while maintaining international links, especially with South African theatre. The Performing Arts Centre Society's Blue Room Theatre (1995–) develops new works, predominantly by younger Western Australians. Spare Parts Puppet Theatre (1981–) brings together traditional and contemporary international influences to develop a distinctive Australian puppetry culture. Barking Gecko Theatre Company (1994–) encourages young people's interactive participation in the arts through performance tours and exchanges, workshops and residencies. **Bill Dunstone**

See also: Aboriginal theatre; Acting; Arts policy; Children's theatre; Circus; Drama festivals; Entrepreneurs, theatrical; Festival of Perth; Goldfields theatre; Musical theatre; Performing arts criticism; Puppetry; Theatre, amateur; Theatre, directors and directing; Theatres, buildings; WA Academy of Performing Arts; Workers' Art Guild; Yirra Yaakin; Youth theatre

Further reading: T. A. Craig, 'Radical and conservative theatre in Perth in the 1930s', in J. Gregory (ed.), *Western Australia between the wars 1919–1939: Studies in WA History*, 11 (1990); B. Dunstone, 'Imperialist discourses: theatrical performances in Perth to 1854', *Australasian Drama Studies*, 23 (1993); B. Dunstone, 'Performing colonial bodies and (as) work', in P. Tait (ed.), *Body show/s: Australian viewings of live performance* (2000); D. Hough, 'The Playmakers', in G. Bolton, R. Rossiter and J. Ryan (eds), *Farewell Cinderella: creating arts and identity in Western Australia* (2003); P. Parsons (ed.) with V. Chance, *Companion to theatre in Australia* (1995)

Theatre, directors and directing In Western Australia, as elsewhere, the director's artistic responsibility for play production evolved in amateur theatre. Molly Ick capitalised on the Supreme Court Gardens venue to imbue Shakespeare's *The Merry Wives of Windsor* with 'antipodean elements' in her 1933 amateur production for the Perth Repertory Club. Dorothy Mark's indoor 'modern dress' *Hamlet* for the Repertory Club in the same year focused on contemporary costumes and properties.

The appointment of David Lopian as director of the Perth Repertory Club in 1949, and of Michael Langham to direct *Richard*

III for the 1953 inaugural Festival of Perth, confirmed the importance of the director and British theatre in Perth theatre's transition to semi-professionalism. The transition was built on local amateurism. David Lopian encouraged director Coralie Condon in her early productions for the Company of Four. From 1948, local actors, designers and directors gained experience in Jeana Bradley's productions at The University of Western Australia. Local actor and entrepreneur Frank Baden-Powell directed fifteen semi-professional productions as first Artistic Director at the Playhouse from 1956. As co-founder of the Hole-in-the-Wall Theatre in 1961, Baden-Powell introduced actors and audiences to experimental theatre-in-the-round. Performance skills developed at Baden-Powell's Old Time Music Hall and theatre-restaurants added a new dimension to directing styles in Perth in the 1970s and 1980s.

Raymond Westwell and Edgar Metcalfe applied British repertory methods at the Playhouse during the 1960s and early 1970s. Westwell established a permanent company, while Metcalfe built audiences with productions such as Friedrich Dürrenmatt's *The Physicists* (1965) and his own annual revues. During the 1970s the Playhouse appointed two emerging Associate Directors: Raymond Omodei, who directed the first production of Dorothy Hewett's *Bon-Bons and Roses For Dolly* (1972); and Andrew Ross, who founded the Green Room and Theatre-in-Education programs.

Perth's directors have since developed distinctively Australian approaches. From 1974 to 1978, John Milson revitalised the Hole-in-the-Wall with an 'alternative' repertoire of Australian and European plays. At the New Fortune Theatre, Aarne Neeme assisted Philip Parsons with his experimental *Richard III* (1968), and directed premieres of Dorothy Hewett's *The Chapel Perilous* (1971), *Catspaw* (1974) and *The Rising of Pete Marsh* (1988). At the Hole-in-the-Wall in the 1980s, and later at the State Theatre Company of

Western Australia, Raymond Omodei evolved an actor-centred direction across a range of Australian and classical plays, including Sophocles' *Oedipus Rex* (1983), with the Mucky Duck Bush Band. During his terms at the Swan River Stage Company, the Western Australian Theatre Company and Black Swan Theatre Company, Andrew Ross directed first productions of plays by Western Australian Aboriginal playwrights. These included Jack Davis's *No Sugar* (1985), Jimmy Chi and Kuckle's *Bran Nue Dae* (1990), and Sally Morgan's *Sistergirl* (1992). Ross also commissioned notable stage adaptations of Western Australian prose works, including Randolph Stow's *Merry-Go-Round by the Sea* (1997). Under Angela Chaplin's direction since 1991, Deckchair Theatre presents works based on the social history of the state and especially Fremantle. Chaplin's productions, such as Graham Pitts' *Emma* (1993) and the co-devised *Mavis Goes to Timor* (2002), incorporate live music and innovative playing spaces. Alan Becher won awards for his 2003 Perth Theatre Company productions of Gary Henderson's *Skin Tight* (1998) and *Shadow of the Eagle* (2003) by George Blazevic and Ingle Knight. Under Grahame Gavin's direction, the Barking Gecko Company (1994) has toured *Frog Opera* (2000) internationally, hosted directors from Japan, South Africa and Denmark, developed an interactive website for young playwrights, and collaborated with Sons of Gwalia in the Leonora Project. **Bill Dunstone**

See also: Aboriginal theatre; Acting; Theatre, amateur; Theatre and drama

Theatres, buildings Isolation and distance encouraged self-reliance on home-grown entertainment, and an enthusiastic appreciation of visiting performers, in the second half of the nineteenth century. Public rooms in private hotels were early venues for performance. On 10 July 1839 'a stage of suitable

proportions' was erected in Leeder's Hotel, St Georges Terrace, for the colony's first theatrical presentation—a military comedy, *Love à la Militaire*.

On 11 October 1852, Mr Cullen, 'Late of the Theatre Royal, Dublin', delivered a 'Reading of Shakespeare's Tragedy of *Othello*' in Mr Curtis's billiard room at the Stag's Head, Fremantle.

A strong temperance movement resulted in the Temperance Hall (1849) and Abstinence Hall (1854). Amateur theatricals were performed here, and in similar venues in country towns. The recycled Rechabites Hall (1924) in Northbridge is a temperance legacy.

The old Court House in Supreme Court Gardens, first used in October 1845 for a concert of Mozart and Rossini, was a regular venue for public performances until the Swan River Mechanics' Hall opened in 1852.

A significant event was the dedication of the Perth Town Hall on 1 June 1870. Still standing in Hay Street East is the façade of St George's Hall, built for the legal firm of Stone and Burt in the Jubilee year (1879) to seat 500–600 patrons. The Hall remained the best venue for the 'respectable classes' for the next sixteen years.

Gold-rush wealth financed places offering live entertainment, both in Perth and especially on the Eastern Goldfields. Perth's first purpose-built theatre, the 1,200-seat Theatre Royal, designed by George R. Johnson, opened in 1897 (Coolgardie had opened a 1,000-seat Theatre Royal in 1895); Fremantle's 1,200-seat Kings Theatre, designed by F. W. Burwell, opened in September 1904, and His Majesty's 2,500-seat theatre in Perth, designed by William Woolf, opened in December 1904. By 1919—the infancy of the 'talkies', radio as yet unborn—there was in Perth one theatre seat for every thirty-three citizens.

Albany, the main port of arrival and departure in nineteenth-century Western Australia, could boast an open-air Cremorne Gardens (1896, roofed in 1897) and the Princess Theatre (1898). Besides these there were no purpose-built theatres constructed in regional WA until the arrival of the multi-purpose venue post-1980, when the possession of a theatre building was considered essential to civic identity. There were many examples, however, of buildings converted into theatres—by the Perth Repertory Club (1922–56), the Workers' Art Guild (1936–40), the Garrick Club (1933) and Patch Theatre (1939), for example, and by repertory clubs in almost every town, prominent among them being Albany, Bunbury, Geraldton and Kalgoorlie. The Little Theatre Movement was very strong in WA from the 1930s onwards.

His Majesty's Theatre, Perth, renovated in 1978–79 with seating for 1,250, is a national treasure; the Kings Theatre, Fremantle, is today the Metropolis nightclub; and the Theatre Royal's decaying façade fronts a set of shops in central Hay Street, Perth.

Government House has been a recital and concert hall from its earliest days, and recent renovations will restore it to the special place it once was for cultural events.

The University of Western Australia is unique in the southern hemisphere for the fine theatres on its Crawley campus: the Sunken Garden (1948); the New Fortune Theatre (1964), designed by Marshall Clifton; the Octagon Theatre (1969) and the Dolphin Theatre (1973), both designed by Peter Parkinson. A group of private citizens built the Playhouse (1956) for the National Theatre Company, and the Perth City Council commissioned the Perth Concert Hall (1973). Private investment financed the now-closed 6,500-seat Perth Entertainment Centre (1974), and the commercially driven 2,500-seat Burswood Theatre (1987).

Perth is an Australian capital without a cultural heart, alone in not having a performing arts complex at its centre. In 2006 the Labor government committed to a two-theatre performing-arts venue for drama and contemporary dance in Northbridge, designed by Kerry Hill & Associates, which

is scheduled to open in 2010. Various state governments have contributed to theatre-building in regional WA, examples being the Queens Park Theatre, Geraldton (designed by Peter Parkinson in 1980); the Civic Centre, Esperance (Tsigulis and Zuvela, 1980); the Bunbury Entertainment Centre (Hames Sharley in conjunction with Sasha Ivanovich, 1989); the Goldfields Arts Centre, Kalgoorlie (Christou & Vuko, 1993); and the Mandurah Performing Arts Centre (Hames Sharley, 1994). **David Hough**

See also: Arts policy; Goldfields theatre; Music; Musical theatre; Theatre and drama
Further reading: J. Gregory, *City of light: a history of Perth since the 1950s* (2003); D. Hough, *A dream of passion: the centennial history of His Majesty's Theatre* (2004); P. Parsons (ed.), with V. Chance, *Companion to theatre in Australia* (1995); C. T. Stannage, *The people of Perth: a social history of Western Australia's capital city* (1979)

Theosophy in Western Australia dates from 1895, when Melbournians James and Henrietta Patterson established a group to study 'ancient wisdom' and promote the Theosophical Society. Formed in New York in 1875, with headquarters in Madras, India, from 1882, the society aimed to combat materialism and strengthen religion, on the basis of universal brotherhood, eastern philosophies, and the powers latent in man. This agenda struck a chord among the local intelligentsia.

Lodges were formed in Perth (1897) and Fremantle (1900). Although distance and a mobile population kept membership low, the calibre was high. New arrivals such as artist Florence Fuller (joined Perth lodge 1904) and Bessie Rischbieth (joined Fremantle lodge 1905), a flow of theosophical stars such as C. W. Leadbeater in 1905 (who died in Perth in 1934 en route to India), and bush intellectuals such as Michael Sawtell, who utilised a

flourishing book depot from Derby, refreshed the cause. Willem Siebenhaar enhanced Perth lodge's literary reputation. Journalist Muriel Chase helped with profile.

Theosophy was well regarded in WA. World president Annie Besant's visit in 1908 attracted progressive women, including Edith Cowan (joined 1911). Theosophical women helped establish the Women's Service Guild in 1909; and theosophists contributed to numerous advanced causes, such as anti-vivisection and cremation. They opposed capital punishment and disdained racial discrimination. Links with India were also significant.

New lodges opened in the optimistic 1920s, Gosnells (1925–87) with a healing dimension, and the Misses Priests' India-oriented Claremont lodge (1927–57). In 1929 Arundale Hall opened in James Street. This heritage building was demolished in the 1970s, despite protests. Compensation enabled Perth lodge to relocate to Hyde Park, and a campus has been established at Mount Helena. In 2002 Perth lodge had 206 members. **Jill Roe**

See also: Buddhism; Spiritualism; Spirituality and religion; Women's Service Guild
Further reading: J. Roe, *Beyond belief: theosophy in Australia 1879–1939* (1986)

Timber industry From settlement to the twenty-first century, the timber industry has played an important role in Western Australia's economy. The first sawmill equipment arrived in 1829 aboard the *Lotus*, and in 1831 the British Admiralty ordered a quantity of Swan River mahogany, later known as jarrah (*Eucalyptus marginata*) for the British Royal Naval dockyards in London. This hardwood was appreciated for its strength, durability and freedom from termite attack. Between 1830 and 1870 a limited hardwood export market developed. In 1848 a ship arrived at Bunbury with orders to obtain hardwood sleepers for

the Indian railways. This began the state's valuable heavy section timber export trade, which continued until the 1980s.

In 1870 Governor Weld granted three large timber concessions in the Northern Jarrah Forest along the Darling Escarpment, and the 1880s state railway expansion brought wealthy entrepreneurs, such as Edward Keane and Neil McNeil, to the industry. Towns such as Jarrahdale sprang up, each developing its own folklore. It is said that the streets of London were paved with jarrah blocks from the many sawmills in the forest.

Goldfields expansion in the 1890s brought orders for building and mining timbers. The Kalgoorlie Woodline Company supplied local wood to fire mine engines. M. C. Davies at Karridale near Cape Leeuwin created a remote empire with ports at Hamelin and Flinders Bay and was the first to export the karri hardwood (*Eucalyptus diversicolor*). In 1902 eight companies came together to form the Millars Karri and Jarrah Company, known as the 'Combine'. This London-based company dominated the industry for fifty years. Rival companies included Bunning Bros, Whittakers, the Adelaide Timber Co., the South West Timber Hewers Co-Operative (known as 'The Teddy Bears'), the Kauri Timber Co. and the State Saw Mills, a government enterprise established in 1912 to supply jarrah and karri sleepers for the planned Commonwealth railway across the Nullarbor.

The *Forests Act 1918*, formulated by Conservator Charles Lane Poole, restructured the industry and looked to reafforestation. His successor, Stephen Kessell (1923–41), implemented forest working plans for the over-cut Northern Jarrah Forest, and because of this the industry was encouraged to move to new concessions in the Manjimup area.

By 1960, after two world wars, a depression and three Royal Commissions into the timber industry (1903–04, 1922, 1951), sawmillers realised that the hardwood forest would be cut out by the twenty-first century. The axe had been replaced by the chainsaw,

the steam loco by the heavy hauling truck. Steam-powered timber mills, which had operated at over 110 locations in the forests of the South-West, gradually changed to electricity. The historic Donnelly River Mill, though non-operational, is the last Australian example of one of these traditional steam mills.

Meanwhile, the industry, led by Westralian Forest Industries and Bunnings, looked to a joint venture in softwoods from Forest Department pine plantations. Today there is a strong softwood, plywood, particle board, medium-density fibreboard and veneer industry.

The British company Hawker Siddeley bought the State Sawmills in 1961 for £2 million, and in 1970 Bunnings took over that company for $3 million. This amalgamation came after a fierce battle, won by Bunnings, for the state-government woodchip contract to supply karri/marri (*Eucalyptus calophylla*) woodchips to Japan for paper. Bunnings and other local companies, including Millars, Whittakers, the Worsley Timber Co. and the Adelaide Timber Co., formed the WA Chip and Pulp Co. Ltd. The *Amended Woodchipping Agreement Act* (1973) granted the company a fixed annual tonnage of 681,000 tonnes of woodchips from a 0.4 million hectare licence area for fifteen years. Woodchipping began in 1976 and chips were exported from Bunbury to Japan.

Alongside the export of karri/marri woodchips, the industry realised the potential of an alternative hardwood, the Tasmanian *Eucalyptus globulus*, and at the beginning of the twenty-first century, plantations are expanding rapidly in the South-West and Albany area, with a woodchip export outlet through the port of Albany.

In 1992 Wesfarmers Ltd bought Bunnings. Green pressure in the late 1990s to end logging in old-growth forests led to Wesfarmers selling many of the company's timber-industry holdings but maintaining a half-interest in Westralian Forest Industries. WA Chip and Pulp Co. was sold to the Japanese company

Marubeni Australia Ltd. Gunns Ltd bought the Dean Mill, Yarloop and Collie hardwood sawmills and is still operating successfully in the South-West in new-growth forests.

Many industry workers have found themselves out of a job, partly as a result of changing practices in the industry, but latterly as a result of the ending of hardwood old-growth logging. Community-wide environmental concern brought a major change to the industry when a new state ALP government was elected in 2001, with promises to protect old-growth forests and to provide financial assistance for restructuring and retraining in the timber industry. In 2003 that government put a stop to all logging in old-growth forests but agreed to honour existing contracts.
Jenny Mills

See also: Environment; Forestry
Further reading: J. Dargavel, *Fashioning Australia's forests* (1995); J. Mills, *The timber people: a history of Bunnings Limited* (1986); J. Mills. 'The impact of man on the northern jarrah forest from settlement in 1829 to the *Forests Act 1918*', in B. Dell, J. J. Havel and N. Malajczuk (eds), *The Jarrah forest: a complex mediterranean ecosystem* (1989); J. Mills, 'The "teddy bears": a history of the South West Timber Hewers Co-Operative Society, Western Australia', in K. J. Frawley and N. M. Semple (eds), *Australia's ever changing forests: proceedings of the First National Conference on Australian Forest History, Canberra, 9–11 May 1988* (1989)

Timber towns Western Australia's remaining timber towns are vivid reminders of an industry that is an important part of the state's heritage. Timber milling commenced near Perth at the time of European settlement, and extended throughout the South-West. Alongside the timber mills, small towns were built by mill-owners to provide accommodation to the mill hands, fallers, 'bullockys', clerical staff and their families. To attract

labour, accommodation was provided either free, or for a nominal rent.

Although most of the mills have ceased operation, a number of timber towns remain intact, and others retain significant evidence of their timber origins. Northcliffe, Jardee and Donnelly River are excellent examples of timber towns in close to original condition. Pemberton retains an operating mill and the original timber town has expanded to become a thriving regional centre. The very early heritage town of Jarrahdale (est. 1872) retains the layout of the original timber town, and some of the dwellings. Nannup, Karridale, Palgarup, Quinninup, Yarloop and Greenbushes all retain significant evidence of timber-town beginnings, but at Shannon River only the clusters of non-native tree plantings mark the once thriving townsite.

All timber towns were much alike, typically consisting of rows of identical timber cottages, a row of single-room bachelor huts, a boarding house, and amenities such as a community hall, shop and school. Set apart, the mill manager's house was larger and more distinctive, providing accommodation for a maid and a gardener. The mill and mill offices were an integral part of the town, being situated on a large level area beside the houses. Water was supplied to the town and the mill from a river or dam, and the large water tanks set high on their massive wooden stands were dominating features of the town.

The architecture of each mill-worker's cottage is simple. Raised on stilts, they are constructed of locally milled weatherboard, and have been described as looking 'rather like a child's drawing of a house, with central front door and two equidistant square windows'. The roof is a simple pitch of corrugated iron, extending over front and rear verandahs. The front door opens into the 'front room', beside which is the main bedroom. Behind these rooms are the kitchen and the children's bedroom. Houses in the early towns had no bathroom, and washing took place in a bathtub in the kitchen. The

WC was by the rear fence. The single men's quarters were even simpler, consisting of one room with a fireplace. These men dined at the boarding house and shared communal washing facilities.

The mill dominated life in a timber town with the whistles marking shift changes and the ceaseless noise of the machinery. Isolated from more major towns, the town needed to be socially and economically self-sufficient. The mill hall was the social centre of the town—former timber-town residents recall with delight the regular dance nights and suppers. They also remember the excitement of a shopping visit to the nearest town, which usually entailed a lengthy ride by horse and cart.

The timber towns of Jarrahdale, Donnelly River and Pemberton are on the State Heritage Register and should therefore retain the full picture of the mill and its relationship to the associated township. Others, however, are at risk of demolition by neglect or inappropriate development. Only through recognition and conservation of timber towns will the full scope and original importance of the timber industry be retained for the future. **Rosalind Lawe Davies**

See also: Built heritage; Forestry; Timber industry
Further reading: M. Calder, *Big Timber Country* (1980); J. Mills, *The timber people: a history of Bunnings Ltd* (1986); D. Owens, *Jardee: the mill that cheated time* (1994)

Tin was discovered near Greenbushes in the South-West in 1886 when a surveyor from the Mines Department reported that the area near Greenbushes Well contained tin in alluvial deposits. In 1888 David William Stinton found a half-pound of tin in a gully south of the present townsite, and the resulting influx of prospectors and miners created a demand for tradesmen, merchants and storekeepers, and saw the population peak at over 3,000 in 1907. Gold prospectors moving into the Pilbara in the late nineteenth century discovered alluvial deposits of tin near Marble Bar (1889), Shaw River (1893), Moolyella (1898) and Wodgina (1902).

Given attractive world markets, production peaked around the turn of the century but collapsed soon after, resulting in the decline of the industry. Production was maintained by individual prospectors and small syndicates. Improved market conditions in the 1950s led to a resurgence of tin mining in both the Pilbara and at Greenbushes, with production being concentrated on the higher-grade alluvial deposits. Although these deposits were rapidly depleted, tin mining was maintained by the introduction of large-scale earthmoving equipment that enabled the open-pit mining of the primary pegmatite ore from which the alluvial deposits were derived.

The production of tin has declined significantly in recent years, with most occurring as a co-product of tantalum mining, a highly valued metal used in the electronics industry. Mining is concentrated at Greenbushes and at Wodgina, south of Port Hedland. Tantalum production has also begun at Bald Hill (Eastern Goldfields, 2001) and Dalgaranga (2002) in the Murchison. **Garrick Moore**

See also: Eastern Goldfields; Geology; Mining and mineral resources
Further reading: J. G. Blockley, 'Copper, lead, zinc and tin', in R. T. Prider (ed.), *Mining in Western Australia* (1979); K. Spillman, *A rich endowment: government and mining in Western Australia 1829–1994* (1993)

Tourism Because of its isolation and the straitened circumstances of the colonial population, tourism was slow to develop in Western Australia. Early travellers such as Anthony Trollope, in 1872, ventured into the colony, but it was not until the gold-rush boom of the 1890s that tourism became relatively popular, as increasing numbers of people sought

relaxation and a healthy environment away from their work. Almost from their inception in the mid 1880s, the government railways began advertising excursions to special events such as race meetings, and by the 1890s boat operators were promoting excursions to places like the Perth Zoo, Garden Island and Rottnest Island, even before closure of its prison settlement. Rottnest opened to the public for extended stays in 1902. Meanwhile, the Mines Department established a number of state hotels, the first at Gwalia in 1903; there were seven by 1916.

The caves at Yallingup were opened up in 1901 and, after the government-owned Caves House opened in 1904, they were enthusiastically promoted by Edgar Robinson, who became Secretary of the Caves Board, and by its Chairman, Dr J. Hackett. Hackett also chaired the advisory board to determine the future of Rottnest Island as a health and pleasure resort. The Yallingup caves and Rottnest Island became the principal attractions in the state government's tourism literature prior to the First World War. However, the government's first priority remained encouraging immigration, and it left what little tourism promotion there was to its Immigration Department and to the work of Edgar Robinson and the Caves Board.

Despite increasing press coverage of the state's attractions and growing public agitation for a proper department devoted to tourism development, the government was slow to react until 1910, when it formally established a Tourism Section within the newly reorganised Department of Immigration, Tourist and General Information. The former Secretary of Immigration, Auber Octavius Neville, was placed in charge. He drew on the techniques and expanded the promotional activities initiated by the Caves Board, producing lettercards, postcards, pamphlets and films publicising the state's attractions. Another initiative of the time was the production of a lavishly illustrated *Handbook of Western Australia*. When the

Tourism Section expanded in 1912, Seybert Hayward, who would eventually become the director of a more independent State Publicity and Tourism Bureau, became a clerk in charge. In the remaining years prior to the First World War, both the public and the private sectors, along with increasing numbers of holidaymakers, began taking advantage of improved transport to Perth's river and ocean beaches, especially Fremantle's South Beach, dubbed the Brighton of WA.

Tourism suffered major setbacks during the First World War, except for shipping and military personnel movements. Immediately after the war, with money short, the tourism department had a minimal budget and the government's efforts again focused on the need for immigrants. Even after its elevation in status in 1921, the new Tourist and Publicity Bureau (TPB) had limited funds and relied heavily on booking fees and private-sector contributions for its support. Nevertheless, there were important developments in the interwar years, as the State Railways and State Steamships promoted and expanded their passenger services and people took to the roads in increasing numbers. Overseas visitors landing at Fremantle were encouraged to linger a while, and transcontinental rail passengers were catered for with the Reso (resource) tours laid on around the state. The annual *Tourist Guide*, compiled by the TPB, provided a useful compendium of the state's accommodation and attractions during the interwar period, which saw steady, though modest, growth.

Although the Second World War again had a disastrous effect on civilian tourism, as the war effort soaked up personnel and resources, shipping and troop movements for training and recreation leave accounted for considerable tourism activity. However, the boom years that followed the war saw rapid expansion as dramatic population increases and new wealth stimulated growth. The tourism department took on new leadership and more staff, after having been closed for

the war's duration, and in 1959 tourism received a major lift in importance, with passage of the *Tourist Act* establishing the Western Australia Tourist Development Authority and a Ministry of Tourism with Premier Brand himself at the helm. Domestic holidaymakers flocked to traditional vacation spots, opening up new beaches and camping spots and building squatters' shacks wherever there were relatively sheltered coastal waters within striking distance of population centres. Annual grants from government supported local efforts to improve camping grounds, caravan parks and recreational facilities. Several events of the 1960s also helped raise international awareness of the state, including John Glenn's orbital flight, earning Perth the title 'City of Light', and the British Empire and Commonwealth Games, both in 1962. However, overseas publicity still featured the state's wildflowers, even after efforts in the 1970s to reposition WA as the 'State of Excitement'.

Tourism's profile continued to rise in the 1970s with creation of the Western Australia Department of Tourism in 1974, sponsorship of the state's sesquicentennial celebrations in 1979, and the Miss Universe competition in July of that year. The 1980s saw further emphasis on tourism with establishment of the WA Tourism Commission (WATC) in 1984 and efforts to capitalise on the America's Cup defence held at Fremantle in 1987. Eventscorp, Burswood Casino and a proliferation of international-standard hotels were associated with these efforts to attract out-of-state tourists. Commercial promotion

'WA The Wildflower State', car number plate, January 1974. Courtesy West Australian *(KK8575)*

of the state has continued since then, with Eventscorp pursuing such events as tennis's Hopman Cup and the since abandoned Rally Australia. The Perth Convention and Exhibition Centre opened in 2004, designed to attract national and international sports and business tourism. Contemporary marketing techniques using supermodel Elle Macpherson to create 'Brand WA' supplemented these endeavours in the 1980s and 1990s, along with the construction of the 'icon' Bell Tower in Perth. In 2004 the branding focus changed first to 'nature' with 'WA Naturally' and then to 'The Real Thing'. Meanwhile, the WATC was renamed Tourism Western Australia.

Despite efforts to attract outsiders, domestic holidaymaking still dominates tourism, with local vacationers maintaining their allegiances to longstanding holiday spots such as Rottnest, Albany and the south coast, and the South-West, including Margaret River and Busselton, during the summer, while in the winter, localities in the North-West, such as Kalbarri, Karijini, Purnululu and Broome draw rapidly growing numbers. Second (holiday) home ownership has become increasingly popular over the past decades.

Government figures of $3.6 billion in 2003, including 72,000 jobs, or around 7.7 per cent of the WA workforce, are used to support the view of tourism as the growth industry of the early part of the twenty-first century, thus encouraging local, regional and state instrumentalities to target tourism as a community and economic development strategy.

In the early twenty-first century, WA could boast an international scale of tourism products from five-star resorts and hotels to outback tours, dive charters and luxury boat cruises, especially in the Kimberley, self-drive tourism and coach and rail tours. Along with the impressive Maritime Museum in Fremantle, housing *Australia II*, other cultural and Indigenous tourism products continue to develop throughout the state. **Jim Macbeth and John Selwood**

See also: America's Cup; Beaches; Beauty competitions; Caves, tourism; Eating places; Hotel industry; Night-life; Rottnest Island; Sesquicentenary; Social change; State hotels
Further reading: J. Selwood, 'Seybert Hayward and the development of tourism in Western Australia', *Early days*, 12, 2 (2002)

Town planning in Western Australia has its origins prior to colonial settlement in the regulations provided to James Stirling before his departure from England. These regulations shaped the form of early townsites, including the capital Perth, port and major gateway Fremantle, and agricultural centre Guildford. From the beginning, Perth and Fremantle took on different forms befitting their distinct functions. The capital extended in linear fashion along the river and developed an open rustic appearance following an ordinance that all buildings be set back thirty feet (nine metres) from the street. Fremantle had smaller-sized lots and a more compact nature stemming from the requirement that owners build right to the street line, or, in the case of vacant lots, erect a wall of stone to minimise the drifting of sand, a problem that was to vex the port city throughout the nineteenth century. In 1838, nine years after foundation, the Towns Improvement Trust authorised the undertaking of public works to be financed partly from local revenue. But initial growth was slow, despite the introduction of convicts in 1850, and Perth's city status from 1856. Development was essentially speculative, and the ambitious nature of early town plans resulted in the continued persistence of many vacant lots. By 1881 the population of Perth had only reached 5,044, while Fremantle's inhabitants numbered 3,641.

The discovery of gold quickened the pace of economic development, leading to a rapid declaration of new townsites, from a mere thirty-six in 1890 to 212 by 1904; as well as accelerating the population growth of existing towns, the municipalities of Perth

and Fremantle recording 36,274 and 20,444 respectively by 1911. This increased the desire and necessity for more effective urban planning, a cause that was championed by the *West Australian* newspaper and taken up by W. G. Brookman (mayor of Perth, 1900–01), G. T. Poole (government architect and planner), and W. E. Bold, town clerk of the City of Perth, among others, as part of a Greater Perth Movement. Following developments overseas, these visionaries argued the case for the 'City Beautiful' concept captured in assistant government architect W. B. Hardwick's 1911 plan. In 1914 the Perth City Council sent Bold on a world tour, during which he was greatly influenced by Garden City proponents Ebenezer Howard and Raymond Unwin. His subsequent report outlined recommendations for future development based on a city plan controlling housing density, building heights, street layout and open spaces while incorporating plans to develop Perth's ocean beach endowment lands on garden-city principles. Bold's period in office (1900–44) was long enough for him to see much of his vision come to fruition, following the formation of the Town Planning Association in 1916 and the state government's *City of Perth Endowment Lands Act 1920*, arguably the city's first town-planning statute, which gave rise to Floreat Park and City Beach suburbs. In 1928 the *Town Planning and Development Act*, the first in Australia, established the Town Planning Board to control subdivision of land throughout the state, gave local authorities the power to prepare local planning schemes, and created the Metropolitan Town Planning Commission, giving reality to the notion of a Greater Perth.

In 1953, with the Perth Metropolitan Region's population standing at 380,000, an era of economic growth and developing industrialisation saw the revival of metropolitan planning following the report of an Honorary Royal Commission. The state government appointed as consultant Professor G. Stephenson from the University of

Liverpool, UK, and A. Hepburn from Sydney as Town Planning Commissioner, to prepare a report which was published in 1955 as the *Plan for the Metropolitan Region, Perth and Fremantle, Western Australia.* The plan anticipated a regional population of one million by 1985 and the increasing decentralisation of population into identifiable, self-contained communities both north and south of the Swan River. This was the basis of the subsequent Metropolitan Region Scheme adopted by the Metropolitan Region Planning Authority (MRPA), which was created as a result of the 1959 *Metropolitan Region Town Planning Scheme Act*. By the time the scheme was reviewed, in the late 1960s, it was apparent that the Stephenson–Hepburn report had seriously underestimated the growth of private car ownership. Consequently, the MRPA embraced the concept of urban expansion through designated corridors of urban communities separated by open space, with interstitial areas of recreational space, rural and extensive land uses. Published by the authority as *The Corridor Plan for Perth* in 1970, it foreshadowed the de-concentration of employment away from the Perth Central Area through the promotion and development of subregional centres located in the corridors, at Joondalup, Midland, Armadale, Fremantle and Rockingham. Widely publicised, with its diagrammatic representation seemingly in every classroom, this plan became the symbol of Perth for a generation of schoolchildren.

The WA planning administration came under review during the 1980s with the election of a Labor state government. As a result, the *State Planning Commission Act 1985* transferred the functions of the MRPA, the Town Planning Board and the State Town Planning Department to the newly created State Planning Commission (SPC). A review of the Corridor Plan was then undertaken under the leadership of Professor M. Neutze from the Australian National University. Released in 1987 as *Planning for the Future of the Perth Metropolitan Region*, the report

identified a number of problems such as the slow development of subregional centres, continued concentration of tertiary employment in the Perth Central Area and inner suburbs, longer journeys to work and resulting traffic congestion. Following extensive public consultation the government released *Metroplan* in 1990, a strategy that stressed the need for greater urban consolidation through increased housing densities in the inner city, but also in regional centres and near public transport nodes. Flexibility in zoning restrictions, housing types and neighbourhood 'Green Street' design proposals were recommended as part of a planning strategy to take the Perth region up to a population of two million with over one million cars by 2021. This direction has been maintained despite subsequent changes in political representation and nomenclature, as the SPC became the Department of Planning and Urban Development and then Department for Planning and Infrastructure, and the vision became Network City (2005). In the state's regional centres, such as Albany, Bunbury and Kalgoorlie-Boulder, town planning schemes have become an indispensable part of urban governance. **Brian J. Shaw**

See also: Flats and apartments; Fremantle; Housing; Kwinana; Local government; Parks and gardens; Perth; Real estate and land development; Roads; Suburban development; Town planning; Transport

Further reading: J. Gentilli (ed.), *Western landscapes* (1979); J. Gregory, *City of light: a history of Perth since the 1950s* (2003); D. Hedgcock and O. Yiftachel (eds), *Urban and regional planning in Western Australia* (1992); M. Pitt Morison and J. White (eds), *Western towns and buildings* (1979); C. T. Stannage, *The people of Perth* (1979)

Trade unions are organisations of wage and salary earners whose purpose is to maintain and improve upon conditions of employment. History suggests that a necessary ingredient for

the existence of such unions is the diversification of the economy beyond agriculture, and unions were not formed in Western Australia until the 1880s. The first of these was the Fremantle branch of the Amalgamated Society of Carpenters and Joiners (1884). During the next decade other unions were formed for printers, train drivers, boot-makers, waterside workers, mine workers, factory employees and most of the buildings trades, and by the end of the 1890s it is estimated that there 'were thirty unions on the coast and an equal number on the goldfields'. There are no statistics on union membership, but probably only a small proportion of workers belonged to unions at this time. In the buildings trades, for example, only about five per cent of workers were union members.

The introduction of compulsory arbitration in 1900 helped in the development of unions since the *Industrial Conciliation and Arbitration Act 1900* (as well as the Act of the same name of 1902) gave unions a legal status and required that employers recognise and deal with them. By 1910 there were 130 registered unions in WA with over 20,000 members. Union membership rose during the Depression years and peaked at over 50 per cent of the workforce in the 1950s and 1960s (57 per cent and 103,600 members in 1950; 57 per cent and 112,000 in 1955) but has declined from the early 1980s, with less than 20 per cent of the workforce (158,800) being union members in 2005. The number of unions registered with Unions WA has also declined dramatically, from 146 in 1985 to 49 in 1990. This was partly the result of a number of small unions going out of existence, but more the result of the Australian Council of Trade Unions' policy for union amalgamations.

Though elsewhere unions brought together skilled workers, in Australia they quickly adapted to include the organisation of unskilled workers. Today, though the name 'trade union' continues to be used, it is really a misnomer. While a few unions

(e.g. nurses, teachers) operate on the basis of trades or training, others are organised around a particular industry irrespective of occupation (e.g. the meat employees union and some public-sector unions). In some cases, such as the manufacturing workers unions, organisation is based upon select occupational groups, irrespective of industry. Other unions organise workers in a range of occupations and industries. The WA branch of the Australian Workers' Union, for example, has 'industrial groupings' that cover workers in construction, refineries, timber, shearing, mining, government, Main Roads and others. In addition to different membership structures, WA unions also exhibit basically three different organisational structures depending on their relationship with their federal counterparts. State-based organisations have limited relationships with federal counterparts (for example, unions covering public transport). In union federations, such as the clerks' and the teachers' unions, state-based unions form a national body. Thirdly, there are national unions with state branches, such as the Australian Workers' Union and the Meat Workers' Union.

WA unions have all sought to improve employment conditions in three main ways: mutual insurance (unemployment, funeral and other benefits), collective bargaining, and legal enactment. Collective bargaining, in which employers and unions negotiate conditions of employment, sometimes involving the coercive forces of strikes and lockouts, has been the major method used to improve wages and other conditions. The most common matter over which employers and unions bargain is wage rates. Other issues include working hours, sick leave, annual leave, safety issues, and union membership rights. Where there is an impasse in such bargaining, the matters may be resolved through arbitration mechanisms, or strikes and lockouts may result. Depending on their strength and ideological affiliations, unions pursue their aims with more or less militancy.

Several famous industrial disputes illustrate the weaponry that unions have used. During the 1919 waterfront dispute over the use of non-union labour, the Lumpers' Union picketed the wharves to keep volunteer labour away and fought running battles with police. In the 1952 national metal trades strike over the payment of margins above the basic wage, unions supported striking workers by organising relief and making payments for strikers' families. In the 1987 Robe River dispute over the company's attempt to abolish so-called restrictive work practices, unions stopped work, picketed the mine site, lobbied governments for support and took the case to arbitration. In the 1998 waterfront dispute with Patrick Stevedores, the Maritime Workers' Union picketed the wharf to stop non-union workers entering, sought assistance from international unions and took Patrick to court, claiming its actions were illegal.

A potential difficulty for collective bargaining is that it can make union labour more expensive compared with non-union labour, since the fruits of such bargaining accrue predominantly to members. To spread employee benefits of negotiations more widely and reduce the risk of anti-union action on the part of employers, unions also engage in legal enactment. This means using Parliament to legislate common minimum conditions of employment in such areas as minimum wages; annual, long service, parental and other forms of leave; occupational heath and safety; and other conditions of employment. Unions also protest when the rights of their members are assailed, as when large crowds of demonstrators converged on Parliament House to protest against successive waves of industrial reforms in the later 1990s.

Within WA, the first unions formed a coordinating body which has operated under a number of names. The original Trades and Labor Council (1891–1907) reflected the mix of skilled and labour-based unions. Since then a number of names have been used: Australian Labour Federation (WA) 1907–1927; Australian Labor Party (WA) 1927–1947; Trades Unions Industrial Council (ALP, WA) 1947–1963; Trades and Labor Council of Western Australia 1963–2000; and UnionsWA since 2000. There has always been a strong relationship between the ALP and the union coordinating body. Until 1947 the union body also coordinated political action. Changes at this time sought to better reflect the differing political and industrial roles of the labour movement. UnionsWA and its members continue to provide the ALP with funding, resources and leaders. **David Plowman**

See also: Australian Labor Party; Conciliation and arbitration; Industrial relations; Labour culture; Pilbara strike; Trades and Labor Council; Work, paid; Workers; Workplace associations

Further reading: B. K. de Garis, 'An incident at Fremantle', *Labour history*, 10 (1966); L. Layman, 'Labour organization: an industrial stronghold for the unions', in P. Bertola and B. Oliver (eds), *The Workshops: a history of the Midland Government Railway Workshops* (2006); J. Merritt, 'George Foster Pearce and the Perth building trades strike of 1897', *Bulletin of the Australian Society for the Study of History*, 3 (1962); I. vanden Driesen, 'The evolution of the trade union movement in Western Australia', in C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Trades and Labor Council The history of the Trades and Labor Council of Western Australia is one of turmoil in the relationship between unions and the Australian Labor Party (ALP). This is testament to the complexities of that relationship despite its frequent simplistic representation.

Trades unions and Trades and Labor Councils (TLCs) formed in Perth, Fremantle and the Eastern Goldfields from the 1880s, with the first joint Trades and Labor Congress

taking place in Coolgardie in 1899. The 1905 Trades Union Congress formed a joint political and industrial body—the Australian Labor Federation (WA)—based on an early model adopted, but later abandoned, by the NSW labour movement. This was formalised as the Western Australian Division of the Australian Labor Party (ALP) in 1907. Consequently, there was no independent TLC in WA between 1907 and 1963.

Historically, central union peak council structures had emerged as 'Trades Hall Councils', existing in metropolitan and regional locations around the state. These permitted the creation of economies of scale for unions and the development of joint industrial and political claims and their advancement. From 1907, however, trades halls were actually defined branches of the ALP. For a union to be eligible to associate with a trades hall, it was first necessary that it be affiliated to the ALP. This created difficulties, as some unions were prohibited by their rules and/or policies from affiliation with any political party. In other instances, ALP rules prohibiting affiliation by any organisation pursuing communist objectives or with elected officers who were current or past members of the Communist Party of Australia (CPA) denied those unions the benefit of belonging to an industrial peak body. It was not unusual for union members to elect communists, not so much for their political beliefs as their effectiveness in the job and the commitment to the organisation and its members, which went with their

Group photograph of members attending first WA Trades and Labor Congress, n.d. Courtesy West Australian *(HIST3771)*

political disposition. A well-known example was Paddy Troy, secretary of the Coastal Docks, Rivers and Harbour Workers' Union. It is noteworthy that a substantial number of 'white-collar' unions, from the public sector in particular, were also denied access to any joint union council, since they were frequently prohibited on their own terms from affiliation with the ALP.

The Australian Council of Trade Unions (ACTU) was formed in 1927, but the ALP in WA refused to affiliate with it until the end of the 1940s. In 1947 six militant trade unions formed an independent WA Council of Trade Unions, which attempted to affiliate with the ACTU. This move was pre-empted by the ALP forming the WA Trades Unions Industrial Council, a body that represented the state on the ACTU for a decade. By 1959, increasing pressure from Communist and Democratic Labor Party union officials, as well as those who saw a disadvantage in ALP affiliation when the Labor Party was in opposition, resulted in a successful move to form an independent Trades and Labor Council. But the terms of settlement brokered by ALP State Secretary Joe Chamberlain resulted in the surrender of all assets held by the Trades Hall Councils. The Trades Halls themselves went to the ALP and became a substantial part of the asset base of the Party, later being sold off.

The founding TLC Executive was an interesting mix of officials from unions affiliated and unaffiliated with the ALP. While foundation president Joe Pereira of the Police Union and secretary Jim Coleman (Amalgamated Engineers) represented the former, Paddy Troy was secretary of the non-affiliated Ship Painters' and Dockers' Union. Later officials included Peter Cook (Secretary 1976–83), Clive Brown (President 1982–86; Secretary 1987–93), and Tony Cooke (Secretary 1995–2001).

The TLC was created as a peak council representing both skilled workers (trades) and unskilled (labour). In its day this was viewed

as a progressive position, given a tendency for elitist separation of tradesmen from unskilled and semi-skilled workers. While these were usually male-dominated unions, there is a recent history of women playing a significant role in the Council. Stephanie Mayman, appointed as the TLC's first occupational safety officer in 1983, became assistant secretary in 1997 and served as TLC secretary from 2001 to 2005. Gender equity continues in the current (2008) leadership team of Dave Robinson and Simone McGurk, state secretary and assistant secretary respectively.

The entry of women to trade union executives was brought about partly by a consolidation strategy at national and state levels that led to many white-collar and public-sector unions affiliating to the existing peak councils, previously dominated by blue collars. To reflect this massive change in internal demographics, to recognise the very significant increase in female participation in the labour market, and to emphasise the union base to the organisation, the Trades and Labor Council of Western Australia adopted the trading name UnionsWA on 1 April 2000. **Tony Cooke and Bobbie Oliver**

See also: Australian Labor Party; Communist Party; Democratic Labor Party; Trade unions; Work, paid
Further reading: B. Ellem, R. Markey and J. Shields (eds), *Peak unions in Australia* (2004); B. Oliver, *Unity is strength: a history of the Australian Labor Party and the Trades and Labor Council in Western Australia, 1899–1999* (2003); I. vanden Driesen, 'The evolution of the trade union movement in Western Australia', in C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Trams of the Perth Electric Tramway Company commenced timetable running in Perth on 29 September 1899. The initial city network eventually extended to Mount Lawley, Subiaco, Victoria Park, North Perth

and Leederville. Lines to Osborne Park and Nedlands Park were constructed by land development capital. The state purchased the system in May 1912 and it was extended to Crawley, Nedlands, Claremont, Wembley Park, Inglewood, Maylands, Welshpool and Como. Patronage diminished during the 1930s and, although usage increased during the Second World War, the postwar period saw continual decline. The last tram ran on 19 July 1958, making Perth the first Australian capital to abandon electric tramways.

The Kalgoorlie Electric Tramways commenced city and suburban operations on 20 May 1902. Extensions were subsequently made to Boulder, Fimiston, Boulder Racecourse, Kamballie and Hopkins Street. Patronage declined after the Second World War and the last tram ran on 16 March 1952.

The Fremantle Municipal Tramways opened on 30 October 1905, serving the city and surrounding suburbs. Local authorities built lines to North Fremantle and Melville. The last tram in Fremantle ran on 8 November 1952.

The Leonora–Gwalia tramway was electrified on 5 October 1907. It continued operations until the power station was destroyed on 16 July 1916. **Brian Pope**

See also: Transport
Further reading: J. Chalmers, *A ticket to ride: a history of the Fremantle Municipal tramways* (1997); I. D. Pleydell, *The history of the Perth electric tramways, 1885 to 1969* (2001); B. Pope, 'Between the Lines: The Politics of Perth's Tramways, 1885–1915', in L. Layman (ed.), *The Work Place* (1982)

Trans Australian Railway The Trans Australian Railway between Kalgoorlie, Western Australia, and Port Augusta, South Australia, was opened on 17 October 1917 at a ceremony held at Ooldea, near the centre of the Nullarbor Plain. The 1,051-mile standard-gauge railway linked Western Australia's

narrow-gauge rail network to the networks of the other mainland states, allowing for the transhipment of passengers and freight between the different capital cities. The first passenger train began operating on 22 October 1917.

Proposals for such a railway had originated in the Federation movement of the late 1880s, when the benefits of a transcontinental line to national commerce, national unity and national defence captivated both public and political imaginations: Western Australian federationists, led by John Forrest, were soon arguing for the building of the railway as an inducement to WA joining the Commonwealth. During the 1890s Forrest's government embarked independently on a program of railway expansion that saw a line reach Kalgoorlie in 1896, opened to traffic on 1 January 1897. Upon entering the new federal parliament in 1901, Forrest continued to press for an extension of this line to the eastern states. As a result of engineers-in-chief meetings between 1903 and 1908 it was decided that the line should be built in 'standard gauge', even though the lines connecting it at either end were narrow gauge. This was a key decision that led to subsequent conversion of the whole national track to this gauge. A route across the Nullarbor Plain was eventually surveyed in 1908, an Act to authorise the railway was passed by the Commonwealth in 1911, and construction commenced from the eastern and western railheads during 1912. Five years later the tracklayers met at Ooldea; and, once joined, the track stood as a leading symbol of a federated nation.

In 1960 the development of a steel works at Kwinana necessitated the building of a heavy-duty standard gauge track to the iron ore deposits of Koolyanobbing, near Southern Cross, which in turn provided the catalyst for the long-awaited unification of railway gauges between the Indian and Pacific Oceans. From 1962 a new route was constructed through the Avon Valley, and a new branch line laid through Welshpool–Kewdale to Kwinana and

Fremantle, before the track reached Kalgoorlie in August 1968. Accompanying upgrades to the key Broken Hill–Port Pirie railway were completed in late 1969. The first freight trains began travelling the 2,461 miles between Perth and Sydney at the start of the following year, and on 26 February 1970 the inaugural *Indian Pacific* train pulled into the East Perth passenger terminal. In 2008 it operates a twice-a-week Sydney–Perth journey, and is the only passenger train operating on this line. **Joseph Christensen**

See also: Federal movement; Railways; Transport
Further reading: F. N. Affleck, *On track: the making of Westrail, 1950 to 1976* (1978); G. H. Fearnside, *All stations west: the story of the Sydney–Perth standard gauge railway* (1975); M. Luke, *Riders of the steel highways: the history of Australia's Commonwealth Railways 1912–1975* (1997)

Transport has always been an integral part of the history of Western Australia. Aboriginal people, carrying only the tools they needed for their physical and cultural wellbeing, walked across their land long before the arrival of white settlers. They used extensive paths that had existed for millennia and linked them with their sources of food, trading goods and ceremonial and meeting places. White settlers brought with them different ways of thinking and equipment and animals that suited their worldview, in which moving people, freight, livestock, information and energy created and linked resources and markets.

The sea became the colony's primary transport mode. It linked initial white settlements at Albany (1827) and on the Swan River (1829) with subsequent settlements around the coast, and WA with the British Empire across the seas. It also encouraged new links in the Indian Ocean, giving Western Australians a different view of the world from other Australians, whose perspective was directed

east towards the Pacific. As these networks of maritime trade were becoming established, the centuries-old technology of wind-driven seafaring reached its peak and simultaneously began to give way to steam-powered vessels that made maritime transport more effective and reliable.

For more than a century almost all transport in WA was developed in relationship to the coast and maritime trade. Roads and railways were constructed to transport produce to the coast and carry people and supplies inland to help produce it. Only from around the 1890s, following the gold rushes, did an important proportion of transport begin serving domestic markets and providing urban transport services.

Initially the new settlers relied on animal muscles to power land transport. Horses pulling vehicles of many kinds or bearing riders, bullocks dragging drays, and camels carrying packs or pulling wagons contributed to the streams of transport to and from the coast. In large part people walked unless they could afford an alternative.

Steam also began replacing animal-powered transport. In 1880 the railway linking Fremantle on the coast to Perth and the agricultural area of Guildford began operating, and lines were extended from Beverley to Albany in 1889 and then to Southern Cross. The government poured up to 60 per cent of its borrowings into railways, using them to create links with the Eastern Goldfields and then to open up agricultural lands. Railway network development reached its peak around 1929, when not quite 5,000 miles of line was open for traffic. In 1917 the railway connecting WA with the rest of Australia was completed, providing a more substantial connection with the rest of the nation than had been provided by shipping.

Bicycles began appearing on Western Australian roads and paths in the 1890s. Still relying on muscle power, they gave people relatively inexpensive and efficient transport without the expense and difficulty of owning a horse. Thousands of bicycles appeared on the Eastern Goldfields. However, they were overtaken by vehicles powered by internal combustion engines, ranging from motorcycles to large freight-carrying vehicles. The first motor vehicle arrived in WA in 1894; in 1918 there were 2,538 of them; and in 1927 there were ten times more: 25,270. The consequent demand for better roads was initially met by the state government using Commonwealth funds; this led to the establishment in 1926 of the state roads authority, Main Roads. It initially concentrated on developing rural roads linking farms with railway lines, but, by the end of the Second World War, had expanded to encompass all major roads in WA and was responsible for the construction of the long highways that linked the distant corners of the state, as well as the freeways that came to dominate Perth.

The internal combustion engine also powered Australia's first air-transport service along the north-west coast to Derby in 1921; and this was also funded by the Commonwealth government. Air transport developed rapidly despite its cost, because its speed and flexibility allowed it to reach greater distances beyond the roads and railways. By the end of the 1930s regular air services linked ports along the western coast from Perth to Darwin, connecting with the international air service to Britain and cutting travel time between London and Perth from around four weeks to about ten days. Other air services linked remote settlements on the Eastern Goldfields and a regular service connected Perth with Melbourne in a flying time of less than twelve hours. This speed created competition, and by the 1960s air transport had virtually wiped out rail and shipping passenger services to the eastern states and overseas. Even so, the maritime freight trade remained strong, encouraged by new and more efficient ways of trans-shipping freight between land and sea transport.

The channels and pipelines that transported water were a less obvious form of

transport. The most important of these was the goldfields water supply pipeline that began delivering water to Kalgoorlie in January 1903. Water from this pipe was also used to support agricultural settlement along its route and, during the Depression of the 1930s, water storages and supply systems were constructed by unemployment relief labour across the South-West of the state.

As WA became mechanised, particularly after the Second World War, its demand for energy increased rapidly. Most of the state's proven energy reserves existed in the Collie coalfields, and one of the major loads the railways carried was coal for steam-powered machinery, including for the railways themselves. From the end of the Second World War the state government embarked on a program to transmit electrical energy across the settled south-west corner of the state and an interconnected system of power stations, transmission lines and distribution networks was built up, so that coal mined at Collie was converted to electrical energy in nearby power stations and used across the region. In November 1983 the Eastern Goldfields were connected to the system via a 655-kilometre transmission line. In the 1970s the government turned to natural gas as another source of energy and it constructed a pipeline 1,500 kilometres long to transmit natural gas from the north-west coastal shelf for industrial and domestic use in the southern settled areas.

With the exception of natural gas, no new forms of transport contributed significantly to the development of WA from about the 1950s. However, in search of improved efficiency, combinations of different modes of transport developed, so passengers, freight or energy might use several modes before reaching their destination. The closer integration of modes including shipping, road and rail transport, air travel and energy transmission made all transport in WA a seamless multimodal network by the end of the century.
Leigh Edmonds

See also: Aviation; Buses; Camels; Cycling, transport; Ferries; Holland Track; Horses, transport; Merchant shipping; Motor vehicles; Railways; Stock routes; Trams; Trans Australian Railway; Transport, freight
Further reading: F. K. Crowley, *Australia's western third: a history of Western Australia from the first settlements to modern times* (1960); L. Edmonds, *The vital link: a history of Main Roads Western Australia 1926–1996* (1997); R. G. Hartley, *Industry and infrastructure in Western Australia 1829–1940* (1995)

Transport, freight Transport of freight during the first decades of European settlement in WA relied largely on wind-power and beasts of burden: simple horse-drawn carts and small river boats and coastal vessels provided carriage within the colony, while trade with the outside world depended entirely on the occasional visits of ocean-going sailing ships. As land settlement spread in the later half of the nineteenth century, transport diversified, with donkey and camel teams supplying miners and pastoralists in remote inland districts, and bullocks were introduced to haul timber in the jarrah and karri forests. Modern forms of transport began appearing in the 1870s. The first railways were built at Busselton in 1871 and Rockingham in 1872, to haul timber to the coast for export, at the same time that steamships commenced servicing ports in the South-West.

The 1890s were a watershed in the development of freight transport, after the colonial government committed to sustaining the economic boom fuelled by gold discoveries by investing heavily in transport infrastructure. Road and bridge-building intensified throughout the settled regions; a new harbour to handle general cargo and passengers was completed at Fremantle by 1900; and a vast railway network was rapidly constructed, which by 1914 had become the mainstay of freight transport in the agricultural districts, the Eastern Goldfields, and the metropolitan area.

Progress continued throughout the twentieth century. Motor trucks, first introduced in the early 1900s, began to challenge the supremacy of trains in the 1920s. Many of the state's well-known trucking companies, including Manford's and Bell Bros, were established in this decade. In 1912 a State Shipping Service was formed connecting the northern pastoral industry with markets in the south. Bulk-handling of the annual wheat crop commenced in the early 1930s. Postwar industrial development further transformed freight transport, and from the early 1960s the industry was increasingly centred on the Kwinana and Welshpool–Kewdale precincts. State-wide highway expansion during the 1950s literally paved the way for the arrival of semi-trailer 'road trains'. The completion of a new container terminal at Fremantle in 1969 heralded a sea-change in the operations of the state's premier port and, after the beginning of large-scale iron ore mining in the late 1960s, WA could boast that the longest trains in the world travelled from the Hamersley Range to the Pilbara coast, carrying ore to some of the largest ships ever built. Containerisation was introduced in the 1970s. Air transport, which began with regular mail services in the North-West in 1921, became increasingly important from the 1970s in linking WA to the eastern states and Asia, and is today an important component of modern warehousing philosophies such as 'just-in-time' storage and delivery. **Joseph Christensen**

See also: Merchant shipping; Transport
Further reading: P. Firkins (ed.), *A History of commerce and industry in Western Australia* (1979); D. Hancock, *Wheels of progress: history of the road transport industry in Western Australia 1829–1983* (1983)

Trotting Harness racing as an organised sport in this state began in 1910. Before then, sulky events, some featuring women drivers, were commonly held at country and city races. In 1913 James Brennan, H. A. Hummerston and J. A Burkett established the Western Australian Trotting Association (WATA) using the WA Cricket Association ground for race meetings. Night trotting, claimed as a Western Australian innovation, began in January 1914. Two years later, WATA installed Australia's first totalisator equipment.

The introduction of an Australia-wide registry in 1924 and improved breeding and training encouraged consistency for standardbred horses. The adoption of the Rules of Racing helped regulate meetings, and, as the popularity of harness racing rose, clubs were formed in many country towns. The Fremantle Trotting Club was established in 1928.

Entrance charges and minimum bets were cheap and attracted working-class support, in contrast to the conscious elitism of thoroughbred racing. Public enthusiasm for the 'people's sport' as well as its potential gambling revenue spurred construction of the Brennan Park trotting ground on swampland at East Perth. Completed in 1930, a unique feature was the 'ribbon of light' track made of crushed Swan River oyster shell. Brennan Park was renamed in honour of the 1934 visit of the Duke of Gloucester.

Trotting's dominant force was John Peter (J. P.) Stratton, who was elected president of the WATA in 1930 and, despite attempts to curb his power, retained control until his death in 1966. Persistent investigations into the conduct of the sport culminated in Royal Commissions in 1946 and 1983.

The rise of the Totalisator Agency Board (TAB) and other gambling outlets paralleled a decline in attendances since the 1980s, forcing the closure of many courses, including Fremantle's Richmond Raceway in 1991. **Jennie Carter**

See also: Gambling; Horseracing
Further reading: C. Fox, 'Debating horseracing: class and gender as rhetorical strategies 1905–1917', in E. Jaggard and J. Ryan (eds), *Perspectives on sport and society: Studies in*

WA History, 18 (1997); B. Stoddart, 'Sport and Society', in C. T. Stannage, (ed.) *A new history of Western Australia* (1981)

Tuberculosis, formerly named consumption, was endemic in industrial Britain in the nineteenth century and was introduced to the Swan River colony with the early settlers. Although the disease certainly had an impact on the Aboriginal population, tuberculosis was poorly diagnosed and deaths were inadequately recorded. One of the earliest recorded deaths from tuberculosis, or consumption, was from the convict population in Fremantle Prison. People with tuberculosis migrated to Western Australia, in particular to the goldfields, in search of a 'climate cure' for their disease. In 1902 the Western Australian *Health Act* was amended to make tuberculosis a notifiable disease, and in 1911 one in eleven registered deaths was attributed to tuberculosis. The state's first sanatorium, called the Coolgardie Home for Consumptives, was officially established in Coolgardie in 1905, and in 1914 a purpose-built institution, the Wooroloo Sanatorium, was opened. The new sanatorium accommodated 300 patients and provided living facilities for nursing and medical staff. Three medical superintendents ran Wooroloo Sanatorium: Dr Robert Mitchell, from 1914 to 1943; Dr Linley Henzell, from 1943 to 1945; and Dr H. R. Elphick until 1958, when the sanatorium closed and patients were transferred to the newly built Perth Chest Hospital.

In 1945 the Anti-Tuberculosis Association, later the Tuberculosis Association of Western Australia, was established by Henzell to help prevent and control tuberculosis in WA. Comprised of members from within the medical and nursing professions, unions and the general community, the association publicised the dangers of tuberculosis and promoted prevention of the disease through early detection and 'safe behaviour' of those diagnosed. These safe behaviours included having an X-ray, attending the sanatorium for treatment, not spitting in public, not kissing family members, and indeed sleeping separately, even outside away from the family. On 25 November 1945 the Commonwealth parliament passed the *Tuberculosis Act 1945*, which granted a tuberculosis allowance to sufferers of the disease. The Commonwealth government also provided funds for X-ray equipment and for staff, who organised and coordinated a mass X-ray campaign. In 1950, under the state *Health Act Amendment Act 1950*, having a chest X-ray became compulsory for all Western Australians aged fourteen years and over. Dr Alan King, head of the Tuberculosis Control Branch, ran the mass X-ray campaign from the Perth Chest Clinic in Murray Street, Perth.

The discovery and use of antibiotics Streptomycin, Isoniazid and Para Amino Salicylic Acid from 1948 revolutionised the treatment of tuberculosis, and, within two years of opening, the Perth Chest Hospital (now Sir Charles Gairdner Hospital) admitted non-tuberculous patients. The disease had been 'cured' by antibiotic therapy and there were not enough people with tuberculosis to occupy the beds at the Perth Chest Hospital, which became a hospital for all diseases, although initially specialising in diseases of the chest. Tuberculosis ceased to be endemic among Western Australians, and from the 1970s mass X-rays were no longer compulsory. Tuberculosis prevention and control was declared a success by the Health Department, although in the twenty-first century Aboriginal people in WA now have higher rates than the remainder of the Australian-born population. **Criena Jean Fitzgerald**

See also: Aboriginal health; Public health; Sir Charles Gairdner Hospital
Further reading: C. Fitzgerald, *Kissing can be dangerous: the public health campaigns to prevent and control tuberculosis in Western Australia, 1900–1960* (2006); R. M. Porter and T. C. Boag, *The Australian tuberculosis*

campaign, 1948–1976 (1991); A. J. Proust (ed.), *History of tuberculosis in Australia, New Zealand and Papua New Guinea* (1991)

Typhoid epidemics Typhoid fever is a food and water-borne disease of poor sanitation. The history of typhoid epidemics in Western Australia largely belongs to the 1890s, a decade of rich gold rushes which led to a major influx of population, mostly concentrated in distant, dry, hot areas devoid of the most basic health amenities. But in 1875 the death rate from zymotic diseases such as typhoid was already high. In Perth and Fremantle sanitation was poor—in many backyards the well for water was located only a few feet from an open unbricked cesspit. The Colonial Secretary, Goldsworthy, arguing for a tightening of health regulations, asserted that the citizens of Perth were living on a dunghill. Water supply and sanitation were then the responsibility of municipal authorities. A reticulated water supply was made widely available to residents of Fremantle in 1888, and limited reticulation was made available to the people of Perth from the privately operated Victoria Reservoir in the Darling Ranges when it opened in 1891. With the discovery of gold and a massive population explosion, water supply and sanitary services in Perth and Fremantle were soon at breaking point. The number of new arrivals had led to the establishment of tent towns in Perth, Fremantle, Subiaco and East Perth, over-taxing already poor sanitation. Typhoid followed in epidemic proportions.

Colonial Surgeon Dr A. R. Waylen stressed the link between typhoid fever and poor sanitation, especially in overcrowded conditions such as in goldfields and railway construction camps. The situation in Coolgardie, where the limited water supply was frequently fouled, was particularly grim, and the shocked mining community struggled to come to terms with the initial mortality rate of up to 20 per cent among, in the main, robust young men.

In 1892 there were only an estimated twenty-one deaths from typhoid reported in the whole colony, but by 1895, with 1,087 cases, the number had jumped to epidemic proportions. The peak years were from 1895 to 1899 with 104, 207, 219, 161 and 98 deaths each year. At its worst the number of deaths was equivalent to 357 per 100,000 in 1895. In comparison, the rates in other colonies during the 1890s were never higher than 55 per 100,000.

In the emergency, the Rev. (later Dr) G. E. Rowe of Wesley Church, Perth, organised the first relief nursing service. It was free and non-sectarian. He inducted trained nurses, recruited mostly from South Australia and Victoria, into the Methodist Sisters of the People order. They nursed with public support in Perth, Fremantle, five mining centres, two agricultural towns, a railway camp and a timber mill during 1893–1900. The Right Rev. Dr Matthew Gibney brought Sisters of St John of God from Ireland, who established hospitals. Salvation Army officers gave unstinting untrained help. On the goldfields local hospital committees rescued fever victims until the establishment of government-assisted hospitals. Doctors and nurses established private hospitals. Typhoid patients required unremitting nursing care and, during the many hours of delirium, constant vigilance. Doctors and nurses toiled through successive summers for many years to the point of exhaustion. Many suffered infection; some died.

Epidemic typhoid reached its peak in 1895–96 but continued to claim many lives until 1900, with an average mortality rate of 10 per cent. Cases were reported in at least eighty-three places. It is estimated that at least 18,000 people may have contracted the disease. The official number of typhoid deaths in WA in the 1890s was 1,879, but the death toll may have been much higher. Patients were treated in government hospitals, in government-assisted tent hospitals and private hospitals, but some people died without ever

reaching a hospital. It was the largest episode of epidemic typhoid in Australia's history.

Gradual reversion to endemic levels in WA was achieved by 1910. Most important was the establishment of adequate urban infrastructure in both the metropolitan area and the new goldfields towns; clean and adequate water supplies (including the completion of the Goldfields Water Supply Scheme to Kalgoorlie in 1903), sewerage and drainage systems, better regulation of food handling, and more adequate housing. Now typhoid vaccinations are used only for overseas travel.
Vera Whittington and Jenny Gregory

See also: Colonial health; Dams and reservoirs; Eastern Goldfields; Gold; Goldfields water supply; Mining, camps and accommodation; Nursing; Railways

Further reading: J. H. L. Cumpston, *Health and disease in Australia: a history* (1989); S-J. Hunt and G. C. Bolton, 'Cleansing the dunghill: water supply and sanitation in Perth 1878–1912', *Studies in WA History*, 2 (1978); D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981); V. Whittington, *Gold and typhoid: two fevers: a social history of Western Australia, 1891–1900* (1988)

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Ugly Men's Association The Ugly Men's Voluntary Workers' Association Inc. was a uniquely Western Australian organisation that was formed in Perth in 1917. The name was derived from an 'Ugly Man' competition organised by the East Perth Football Club to raise money for the Children's Hospital and the War Patriotic Fund. The competition had been devised by Mrs Alicia Pell some years earlier as a fundraising method for the Red Cross in Kalgoorlie: nominations for the title cost sixpence and votes for the title of 'Ugly Man' a penny. The men involved in the football club's competition realised there was an ongoing need to raise funds for the many cases of hardship caused by the war and the Ugly Men's Association was formed. Over two thousand men and women became members of the association in twenty-one branches throughout the metropolitan area.

Initially, the Association assisted the dependants of soldiers who had died during the war: it held 'busy bees' to repair war widows' houses and raised funds to provide building materials. During 1918 and 1919 it built thirty new houses for war widows, and in 1919 it established a training school for returned soldiers who were taking up land under the Soldier Settlement Scheme. By 1920 the Repatriation Department had assumed responsibility for war widows and returned servicemen and the Ugly Men turned to helping the needy in the general community.

Throughout the 1920s the Ugly Men raised about £12,000 each year, much of it through annual 'Uglieland' carnivals held in Perth and in Fremantle. Other fundraising methods were both entertaining and innovative: these included a mock police court set up in St Georges Terrace, 'mystery man' guessing competitions, popularity contests, and the making of a four-reel film written by 'Dryblower' Murphy, which raised £3,000 for the Children's Hospital in 1920. Through these events, and other activities organised by local branches, the Ugly Men contributed significantly to popular entertainment in the metropolitan area.

The funds raised were distributed to individuals and families, but several major fundraising campaigns also provided services to the wider community: an ambulance was purchased for the Fremantle Hospital and over £2,000 was donated toward the hospital's running costs; a new outpatients' department was added to the Children's Hospital; a recreation hall was built at the Wooroloo Sanatorium; and an X-ray machine was purchased for the Perth Hospital. A special campaign in 1924 raised £2,000 to help set up infant health clinics.

In 1929 the state government closed down the Uglieland carnivals, effectively cutting off the major revenue base of the Association,

Entrance to Uglieland at White City in Perth, 1922. Courtesy West Australian *(HIST6429)*

and its vitality diminished during the 1930s. In 1933 the State Lotteries Commission was established to raise money for hospitals and community organisations, taking over some of the responsibilities previously met by the Ugly Men. Both the long-serving president and vice-president of the Ugly Men's Association, Alex Clydesdale and Harry Mann, were appointed to the first board of the Lotteries Commission.

Although already largely ineffective throughout the 1930s, the Ugly Men's Association declared itself 'in recess' at the outbreak of the Second World War. Following the passage of a new *Charitable Collections Act* in 1947, an investigation was conducted by the Chief Secretary's Department. Under the terms of the new act the Ugly Men's Association was deemed to be defunct 'due to maladministration' and a Proclamation to that effect was signed on 18 August 1948.
Rita Farrell

See also: Lotteries; Night-life; Repatriation, First World War; Service clubs and organisations
Further reading: R. Farrell, 'A history of the Ugly Men's Voluntary Workers' Association of WA Incorporated', Honours thesis, Murdoch University (1993)

Unemployment Historical records tell us little about the actual levels of joblessness in the first few years of settlement other than that indentured labour remained in such short supply throughout the 1830s that it very nearly led to the collapse of the fledgling Swan River Colony on more than one occasion. This trend of low-level unemployment continued into the 1840s, and although the value of agricultural production steadily increased throughout the decade, by 1850 it became necessary to introduce convict labour to sustain the colony's productive capacity.

While transportation led to a rise in demographic growth and a surge in new capital formation (primarily from Imperial funding to support the convict population), its effect on employment levels is not so easily determined. As tickets-of-leave were issued as a matter of routine, pardoned convicts entered the labour market en masse, not only undermining existing wage rates, but possibly discouraging free settlement in the process. Crude estimates derived from the 1854 census suggest that out of a total population of just under twelve thousand persons, the participation rate, that is to say the number of employed and unemployed persons as a proportion of the total working age population, stood at around 64 per cent, with unemployment in the order of 12 per cent. These rates, inclusive of both males and females, remained relatively constant over the following thirty years, save for a severe drought in the late 1860s and a mini collapse of the building industry in 1887–88, which had the effect of momentarily elevating unemployment levels.

The discovery of commercial quantities of gold in the late 1880s and early 1890s altered forever the structures of economic development in WA, and with it the patterns of employment. Self-employed and transient for the first few years of the 'rush', prospectors were increasingly employed by companies from around 1894 onwards. The construction of buildings, railways, roads and pipelines, coupled with a nascent service sector, saw job availability increase markedly across the goldfields. By the time the first federal census was held in 1901, the population of WA had grown to 184,000, with almost 60 per cent of residents living outside of metropolitan Perth. According to occupational statistics, the participation rate was 53.3 per cent, with unemployment a very respectable 3.74 per cent. Indicative of sound economic management during a period of consolidation over the following few years, these rates were 47.3 per cent and 3.23 per cent respectively by the time the next census was undertaken in 1911.

The decade following the end of the First World War was one of mixed economic fortunes for WA. Notwithstanding a protracted decline in gold production and an influx of assisted migrants and returning soldiers, the mean unemployment rate was around 6.8 per cent compared with the national average of 8.4 per cent. Historians have argued that settlement of new arrivals and many ex-Diggers on rural smallholdings camouflaged real unemployment figures, but a rapid expansion in primary production and the establishment of the Wheatbelt during this period would suggest otherwise. Celebrations marking the centenary of settlement in 1929 rapidly dissolved with the onset of the Great Depression. An increasingly mature economy meant WA could not escape the effects of a universal economic meltdown. Despite record harvests of wheat and wool during 1930, severely depressed global commodity prices ensured that the cost of producing the state's two staple exports far outstripped their value on international markets. Prices remained weak up until the mid 1930s, exerting pressure on jobs in the agricultural sector. Of perhaps greater significance was that WA no longer had ready access to low-interest external capital funding in support of an ambitious public works program, leading to the widespread retrenchment of workers. Figures for 1929–30 indicate the unemployment rate among trade union members had risen to 13.8 per cent, escalating to 24.1 per cent in 1930–31, and matched the national average of 28.7 per cent twelve months later. These figures, however, obscure regional and suburban differences. In Bassendean, for example, one of the worst-affected Perth suburbs, it has been estimated that the unemployment rate was at least 40 per cent of the population.

There was a sharp rise in social agitation as greater numbers of people went homeless and hungry. Organised unemployed demonstrated with increasing militancy, angry at the government's ineffectual attempts to revive the economy and create long-term employment opportunities. The most serious disturbance occurred in March 1931, when a large number of unemployed men, incited by the fiery rhetoric of visiting Communist Party officials from the eastern states, marched along Barrack Street to present a list of demands to the authorities. They were met by an equally large contingent of police, leading to an explosive confrontation on the pavement outside the Treasury Buildings. In late 1931, when as many as 16,000 people were receiving paltry sustenance wages, the state government switched policy and introduced several large-scale relief projects. People were placed in unemployment settlements in the South-West and paid to clear the land and to construct roads and houses. Closer to Perth, an extensive dam-building scheme commenced, while prospecting assistance was provided to those who wished to return to mining. Civil unrest continued, and yet another major incident between the police and demonstrators occurred at the Frankland River sustenance camp in April 1932. Even as late as 1934 there were isolated skirmishes among the unemployed reported at Harvey and Kalgoorlie, although those on the goldfields were marked by a degree of racial discord that arose from the increasing numbers of jobs being taken by people of southern European origin.

An accelerated revival in gold production and related industries from 1933 onwards helped ease the jobless crisis, with general unemployment falling from 13.57 per cent that year to more acceptable levels of around 6 per cent by the beginning of the Second World War. These figures compared favourably with the rest of the country, which continued to grapple with unemployment rates above 14 per cent throughout the second half of the 1930s.

Even as unemployment in WA fell to historic lows of around 1 to 1.5 per cent of the active workforce during the Second World War, unemployment benefits were introduced

Soup kitchen in East Perth. Unemployed men at the Fremantle Trades Hall receiving vegetables, September 1956. Courtesy West Australian *(K8504)*

under the auspices of the *National Welfare Fund Act 1943* in July 1943. As with much of the free world, the postwar years in WA were characterised by opportunities that arose through the implementation of liberal economic and fiscal policies. Demobilisation of the armed forces led directly to an acute shortage of housing, necessitating a surge in new infrastructure development, while world shortages and high prices for minerals and agricultural products stimulated the local mining and pastoral industries to unparalleled heights. Wartime rationing was abolished and the introduction of new capital funding and accelerated levels of migration all contributed to the recovery of the state. Though an imperfect means of gauging unemployment, data relating to the payment of benefits reasonably reflect different levels of prosperity over time. Up until 1949 an average of 513 people per week collected benefits at a time when unemployment was around 3 per cent. Between 1950 and the 1954 census, just 432 people per week were receiving payments, when unemployment was recorded at a mere 1.09 per cent.

The late 1950s and 1960s marked the industrialisation of WA, extending this long run of low-level unemployment.

Notwithstanding the total population growing by almost a third since the mid 1950s, exploration and exploitation of the state's vast mineral deposits created a wealth of job opportunities resulting in unemployment levels of just 1.47 per cent in 1966. However, as with most developed economies following the oil crisis of the early 1970s, economic growth slowed during the second half of the decade and by 1979 there were almost 30,000 people receiving unemployment benefits in WA. Stagnation continued into the early 1980s, when almost 8 per cent of the workforce could not find employment. A record 57,500 Western Australians claimed weekly benefits during 1984. In the mid 1980s the unemployment rate among women in WA was 8 per cent, compared with 7.3 per cent for men. At around the same time the unemployment rate of non-English-speaking migrants was 9.9 per cent, with that for migrant women at 10.2 per cent. The situation for Indigenous Australians (whose participation in the workforce was only recognised after an amendment to the Constitution in 1967) was even worse, with an official unemployment rate of 58.6 per cent. It has, however, been claimed that Aboriginal unemployment may even have been as high as 90 per cent if the so-called 'hidden unemployed' (people discouraged from looking for work) were included in official estimates.

Driven by new investments in the resource sector, particularly in iron ore and oil and gas developments, employment levels in WA improved rapidly across the board in the late 1980s, and by 1989 unemployment had fallen to 5.1 per cent. This boom continued into the 1990s, with employment growing at an average rate of 2.4 per cent per annum, compared with the national average of 1.8 per cent.

Because of the resources boom, WA continued to outperform the other states with respect to its labour-force status. Western Australia's youth unemployment rate of 16.1 per cent was five per cent lower than the

national average and was the lowest of all the states. Despite maintaining the highest labour-force participation rate of any state at 68.3 per cent (seasonally adjusted), general unemployment in WA stood at 3.1 per cent in December 2007, more than a full percentage point lower than the national average. **Brian Mills**

See also: Aboriginal labour; Depression; Economy; Welfare; Work, paid; Workers
Further reading: G. D. Snooks, *Depression and recovery in Western Australia, 1928/29–1938/39: a study in cyclical and structural change* (1974); C. T. Stannage (ed.) *A new history of Western Australia* (1981)

Uniting church Inaugurated on 22 June 1977, the Uniting Church in Australia was formed from a union of the Congregational, Methodist and Presbyterian churches. All Methodist churches entered the union in Western Australia; five Presbyterian and five Congregational churches did not.

From the early 1900s the three denominations had cooperated in limited ways. Proposals for union failed in 1925, 1935 and 1942–45, until a positive response was received to a proposal in 1954. A Joint Commission was set up nationally in 1957 and a Basis of Union was accepted in 1972. Voting in 1973–74 paved the way for the inauguration of the Uniting Church. Originally planned for 1976, quarrels over property delayed union until 1977.

In 1964 the Methodist and Presbyterian Theological Halls in WA began to cooperate, and when the Congregationalists joined them in 1973 the United Department of Theological Studies was formed, followed by a United Department of Christian Education. A Joint Board of Local Mission was founded in 1971 to establish cooperative parishes and new churches.

Inauguration was celebrated with great joy at a service held in the Perth Entertainment Centre on 26 June 1977. The decades since union have seen renewal and controversy, as ministers and members grappled with new structures, competing interests and the pressures of change.

The WA church is committed to ministry among Aboriginal people, participating in the Uniting Aboriginal and Islander Congress, special projects in Wiluna and the Swan Valley, and supporting protest at Perth's old Swan Brewery site in the 1989–90s. Ethnic congregations have also been an important addition to the Uniting Church in WA, and through national Frontier Services it has maintained ministry patrols to remote areas and founded churches in new mining towns.

Education has been important. Kobeelya in Katanning (managed by the Uniting Church from 1976) was sold in 1986, but St Stephen's in Duncraig opened in 1984, and Tranby in Baldivis opened in 1997. St Luke's in Beeliar opened in 1999 but closed in 2002. In 1985 the United Department of Theological Studies became a partner in the Perth College of Divinity at Murdoch.

A Child and Family Care Services Board, established in 1978, oversaw changes in residential child care, and an Aged Persons Homes Board (Uniting Church Homes from 1989) has expanded services. Caring services were linked as 'Uniting in Care'. Good Samaritan Industries, rescued from financial failure, flourished under a new Synod-guided regime, and post-release prisoners were cared for through Prison and Outreach Ministries.

The years since 1977 have been torn by controversies over charismatic renewal, baptism, ministry, and ministry and sexuality. As the rural population declined, it has been difficult to maintain traditional church structures in remote areas, and mission growth in metropolitan areas has been slow. At the 2006 census the 74,334 members of the Uniting Church represented 3.8 per cent of the population, making it the third largest Christian church in WA. **John H. Smith**

See also: Aged care; Congregational church; Education, independent schools; Methodist church; Presbyterian church; Spirituality and religion

Further reading: W. W. Emilsen and S. Emilsen (eds), *The Uniting Church in Australia: the first 25 years* (2003)

University of Notre Dame Australia The University of Notre Dame Australia was established by an Act of the Parliament of Western Australia on 21 December 1989 and a Canonical Statute of the Archdiocese of Perth on 2 July 1991. It is Australia's only private Catholic university with campuses in Fremantle and Broome, Western Australia, and in Sydney, New South Wales, with about five thousand students enrolled in 2006. It offers courses through its Schools of Arts & Sciences, Business, Education, Health Sciences, Law, Medicine, Nursing, and Philosophy & Theology. It has a special relationship with its founding partner, the University of Notre Dame in the United States.

In 1992 the university enrolled its first students—about seventy—all of them in postgraduate teacher education. Undergraduate courses in a broad range of subjects commenced in 1994.

The first eight years were an immense struggle for the university to survive, to grow academically, physically and culturally, to define itself, to achieve balance and harmony, and to set in place a structure which would support it for the long term. By 2000 that was largely achieved. Student numbers were viable. The development of the university's core curriculum (theology, ethics and philosophy) sets it apart from other tertiary providers.

The University's object (as defined in its Act of Parliament) is the provision of university education within a context of Catholic faith and values. It seeks excellence in teaching, scholarship and research, training for the professions and the pastoral care of its students. In meeting its object, the University seeks to be open to all people. The University's campuses in Fremantle and Sydney are based in restored buildings of great historical significance and architectural merit. The campuses reflect the 'town university' style which Notre Dame has adopted, and are integrated into the business and daily life of their local communities. **Peter Tannock**

See also: Curtin University of Technology; Edith Cowan University; Fremantle; University of Western Australia

University of Western Australia The University of Western Australia (UWA) first opened its doors in May 1913 in temporary buildings in Irwin St, Perth, with 184 students, mostly male, and an academic staff of eight professors and four lecturers.

Although many people played a part in bringing the state its first university, the dominant figure was John Winthrop Hackett (1848–1916), editor and part-owner of *The West Australian* newspaper, who chaired the Royal Commission which recommended the university's establishment. He was elected its first chancellor, endowed one of the inaugural chairs, and on his death, in 1916, made the university a residuary legatee. Administered by his executor, Alfred Langler, this bequest eventually brought the university in the 1920s the massive sum of £425,000, equivalent in early twenty-first-century terms to $18 million. Hackett also left a substantial amount to the Church of England, to be used to build the university's first residential college, St George's.

UWA also benefited from a grant of over 4,000 acres of suburban and country land from the state government. While it was of little immediate value, as Perth grew, the university was able to use the land to build a substantial capital endowment.

Although the academic staff was small, its quality was high. Hubert

Whitfeld (1875–1939), Professor of Mining and Engineering, ultimately gave the University exceptional service as its first permanent Vice-Chancellor, and individuals such as E. O. G. Shann (1884–1935), first professor of History and Economics, and (Sir) Walter Murdoch (1874–1970), first professor of English, made a major contribution to the Australian community as well as to the University. The three initial faculties were Arts, Engineering and Science, with Law added in 1927. Agriculture seceded from Science in 1935; and Education, and Economics and Commerce, from Arts in 1948 and 1955 respectively. Dentistry was added in 1946, and Medicine in 1957, following a well-supported public appeal. With the addition of Architecture in 1966, the university took on its modern shape. By the end of the century, UWA's nine faculties gave it a comprehensive coverage of traditional and modern academic disciplines, including those which train students for the major professions.

In 1922, after years of conflict over the best site for a permanent campus, the university accepted 85 hectares of land at Crawley in exchange for some of its endowment lands elsewhere. The construction of permanent buildings began rather haltingly because of financial stringency, but when the Hackett endowment funds became available a worldwide architectural competition led to the adoption of plans by Rodney Alsop and Conrad Sayce of Canberra, which formed the basis of the familiar limestone buildings of Mediterranean design fringing Stirling Highway, clustered around the iconic Winthrop Hall and its tower. The transfer from Irwin Street to Crawley was complete by 1932, when the new campus was formally opened.

The university had begun at a difficult time, being soon affected by the outbreak of war, and then, after some ups and downs in the 1920s, by the Depression of the 1930s, followed by another world war. Fortunately, the university had from the start followed a tradition of free education, with no tuition fees. The number of students nevertheless remained fewer than one thousand as late as 1945, although a wave of returned servicemen led to a big jump in the following year, and there were only thirty-one full-time academic staff in the early 1940s, with the average department numbering two or three, so that even the professors carried a very heavy teaching load. This left little time for research but, in any case, undergraduate teaching was the priority in those times.

The tide in the university's fortunes turned in the 1950s, based on prosperity and very rapid population growth, and aided by a huge expansion of secondary education. Following the establishment of the Australian Universities Commission in 1959, Commonwealth funds began to flow into universities for the first time, until in 1974 the Commonwealth government replaced the state government as the primary funding body. Through the 1950s and 1960s, student and staff numbers grew rapidly and new buildings began to spread across the campus, moving its centre away from Stirling Highway. The University became much more prosperous, although in the process the tradition of free education was abandoned in 1961.

Total enrolments topped 10,000 for the first time in 1974, by which time the academic staff was approaching 600 and the total staff was over 1,700. Thereafter, growth was more uneven, being affected by government policy and the foundation of rival universities, but by 2004 there were well over 16,000 students served by more than 1,100 academic staff and a total staff of over 2,700. Moreover, by the twenty-first century the student population was equally divided on a gender basis, a marked change from earlier days.

A notable feature of the second half of the twentieth century was the increased emphasis on research and postgraduate study. By 2003 over 11 per cent of all enrolments were for research degrees, a much higher proportion than other local universities and one of the

highest in Australia. Alongside this was a growing number of academic staff, many in specially funded research centres, employed to do research without any undergraduate teaching responsibilities. The award in 2005 of the Nobel Prize for Physiology or Medicine to Barry Marshall and Robin Warren was a highlight of the university's research achievements.

Another feature of this period was the influx of overseas or international students, mainly from South-East Asia. In the 1950s and 1960s these were mostly on scholarships linked to Australia's foreign aid program. From the 1980s they were mainly paying their own fees and became an important source of university income as the government forced all universities to become less reliant on government grants.

Despite its basic mission to conduct teaching and research, UWA has always been a multifaceted institution which serves its community in diverse ways, in part a legacy of its early years as the only university in a very remote city. Significant examples of this are its press, a major publisher of local material since the 1930s; the annual Summer School for community members rather than enrolled students, again conducted since the early 1930s; and the UWA Perth International Arts Festival (originally the Festival of Perth), founded in 1953 at the instigation of Fred Alexander (1899–1996), who was at that time both Professor of History and Director of the Adult Education Board. **Brian de Garis**

See also: Curtin University of Technology; Edith Cowan University; Festival of Perth; Murdoch University; University of Notre Dame Australia
Further reading: F. Alexander, *Campus at Crawley: a narrative and critical appreciation of the first fifty years of the University of Western Australia* (1963); B. de Garis (ed.), *Campus in the community: the University of Western Australia, 1963–1987* (1988)

USA, relations with The US influence in WA was minimal before the Second World War. Herbert Hoover, president in 1930, may have gained youthful experience in the goldfields, and the Great White Fleet spent a week in Albany in 1909 (one of only two Australian stops), but American interests were still overseen from Adelaide. When a Perth consulate was finally established in 1938 it reported only fifty-seven United States nationals in the state and Big Bell Mines as the sole company in which American capital was directly invested. But in this same period the cinema was portraying favourable images of Americans that survived sustained contact in the Second World War.

Arriving in late February 1942, American servicemen were greeted as saviours by a populace abandoned by eastern Australia. As the threat of invasion subsided, army personnel were withdrawn by late 1942, making the American presence in important population centres entirely naval for the remainder of the war. While remote Exmouth Gulf was an important supply base, a highly paid elite of submariners in Fremantle and Albany and of Catalina flying-boat personnel in Perth and Geraldton received warmer welcomes than their countrymen in other states. The Americans responded with many popular gestures, climaxing in a party at Gloucester Park in 1944 in which 150 officers and 350 enlisted

Allies in WA. American serviceman's last lunch at the Wentworth Hotel, September 1945. Courtesy West Australian *(WAR2437)*

men supervised merry-go-rounds, pony rides, movies, sideshows and sports and lavished hot dogs, Coca-Cola and chewing gum on an estimated 50,000 local children. Yet the affluence that enabled spectacular generosity also ensured self-sufficiency. Needing nothing from local communities except the warmth of human relationships, the Americans took away with them as war brides more than a thousand of those most affected by their presence. In 1948 they even repatriated from Karrakatta cemetery all their wartime dead.

Inevitably, the state experienced the global postwar modernisation dominated by American business and popular culture. But it did so with less obvious resentment of American power than elsewhere in Australia. The North West Cape link in the US nuclear submarine force communications network, established in 1963, stimulated the growth of Exmouth township. Still under US command, the renamed Harold E. Holt US Navy Base became a joint facility with the RAN in 1972. Its decommissioning in July 2002, when transferred to Boeing Australia, owed nothing to the anti-nuclear clamour of recent decades. Although the anti-nuclear movement mounted hostile campaigns, involving thousands of protesters in the 1980s, Perth remained the US navy's favourite destination for rest and recreation leave thanks to the welcome from the general community.

The state's economic transformation since the 1950s inevitably attracted greater business investment—reflected in a local American Chamber of Commerce—but it was lifestyle rather than economic or political significance that, according to American sources, made Perth the most coveted posting in the United States consular service. The end of the Cold War brought closure of the US Information Service, reductions in the consulate's staff numbers and a drop in numbers of visiting naval personnel from a high of 37,749 in 1983 to a tenth of that figure in 1991. But international instability, especially in the Middle East, restored ships' visits through the rest of the decade and even raised the possibility of a more permanent US Navy presence. While political uncertainty and controversy surrounded that issue, the more tangible factor in the early twenty-first century was that an annual average of some 30,000 well-paid visiting American sailors continued to contribute to the local economy with very little collateral social damage. WA has also become an attractive destination for American students undertaking a semester abroad at Perth universities. **Anthony J. Barker**

See also: America's Cup; Anti-nuclear movement; Cinema; Esperance; Great White Fleet; Gulf Wars; Korean War; Peace movement; Second World War; Vietnam War

Further reading: A. J. Barker and L. Jackson, *Fleeting attraction: a social history of American servicemen in Western Australia during the Second World War* (1996); P. Bell and R. Bell (eds), *Americanization and Australia* (1998); P. Bell and R. Bell, *Implicated: the United States in Australia* (1993)

V

Vegetation Western Australia comprises the whole span of life as it has fossil stromatolites of the earliest known, 3,500 million years (m.y.) old, and living colonies of stromatolites at the present day. Only very primitive forms of life existed until the Cambrian, 570 million years ago. Land plants first appeared in the Upper Silurian (400 m.y. ago) and became well-established in the Devonian (395–345 m.y.). An accurate impression of the plant life in WA in the Lower Permian (270 m.y.) can be formed due to the abundant remains in coal deposits when the Glossopteris flora of seed ferns was dominant. Development of higher forms of life continued into the Mesozoic Era (225–65 m.y.) with rising temperatures, and climates at first arid and then humid tropical. Cycads and cycad-like plants and gymnosperms ancestral to modern southern conifers—kauri pines, podocarps and Araucarians—became dominant but were superseded by the flowering plants (Angiosperms) during the Cretaceous (135–65 m.y.). It was probably only at this stage that a complete plant cover of the whole earth's surface became possible, including arid areas and steep rocky surfaces. During the Tertiary (65 m.y. to present), plant life evolved to tolerate progressively more arid fire-prone climates and poorer, more nutrient-deficient soils, with dominance of elements such as Eucalyptus and Proteaceae.

Vegetation is the plant cover considered in the entirety of its structure and plant forms as well as its component species. Taxonomic study of the plant species began with the earliest visiting expeditions, but its treatment as vegetation began only with F. von Mueller

in 1867, who first drew attention to the special character of the South-West of WA. The German botanists Ludwig Diels and Ernst Pritzel visited WA for fourteen months in 1901, and in 1906 Diels published a book *Die Pflanzenwelt von West-Australien südlich des Wendekreises* ('The plant world of Western Australia south of the tropics'). This was the first comprehensive treatment. In German, it was translated into English at The University of Western Australia (UWA) in the 1920s but only typed copies were made. Diels' treatment was expanded by Government Botanist Charles Gardner in 1942 to cover the whole state. This and previous work was of a descriptive character only, without detailed mapping, except that the endpapers of Diels' book included a small-scale coloured map of the vegetation of the whole of Australia, the first such to have been published. In 1914, J. T. Jutson produced a coloured vegetation map of WA (scale 1:2,500,000) to accompany an authoritative work on physiography, now a classic; but descriptive text on vegetation was confined to a few notes, and the map itself was inevitably highly generalised. This map was republished in 1928 with the addition of data on Eucalypt distribution supplied by C. A. Gardner.

The ability to map vegetation changed radically with the introduction of aerial photography, which was made available by the Commonwealth from the 1950s both in the form of individual photographs and of mosaics put into sheets at a scale of 1 mile to 1 inch (1:63,360). The latter enabled large-scale mapping to be conducted rapidly. A project entitled the Vegetation Survey of Western

Australia was established at UWA in 1964 by M. J. Webb, then Professor of Geography, and J. S. Beard, Director of Kings Park and Botanic Garden. It was funded initially by the Kings Park Board and later by the Australian Commonwealth. Fieldwork and basic mapping was by Beard, cartography at the University Department of Geography, publication by the UWA Press. Basic mapping was at 1:250,000 in sheets corresponding to those of the Commonwealth topographic series and to those of the Geological Survey of WA. These were combined for publication in full-colour maps at the scale of 1:1,000,000, of which seven were required to cover the state, each with an accompanying explanatory volume. Twenty-four of the basic mapping sheets at 1:250,000, covering the South-West, where there would be interest in more detail, were published separately in black and white, each with explanatory booklet. The rest are held in the map library at the University. This project was completed in 1981 with the addition of a single sheet at 1:3,000,000 for the whole state published by the Forests Department, and one at 1:10,000,000 in 1979.

The idea that it is possible to recognise biogeographic regions or natural ecological regions has long existed, and was pioneered in Western Australia by Diels, who divided the South-West as far as known to him into two provinces comprising ten smaller botanical districts. The system was extended with slight revision to cover the whole state by Gardner in 1956. Beard used his vegetation mapping to incorporate Gardner's system, with boundaries revised to be coincident with mapped boundaries of vegetation units, and in 1980 published a statewide map of this regionalisation at a scale of 1:2,500,000. This in turn was incorporated with slight revision into an Australia-wide scheme, styled IBRA (Interim Biogeographic Regionalisation for Australia) by Thakway and Cresswell in 1994.

Since 1986, work has been under way at the WA Department of Environment and Conservation to capture to a Geographic Information System (GIS) and associated Relational Database Management System (Oracle) all of Beard's vegetation mapping as Phase 1 of a vegetation database for the state. With Phase 1 now complete, there is a seamless map coverage of the whole state at the scale of 1:250,000 with a consistent nomenclature. The database and vegetation taxonomy have also been used to produce a new 1:300,000 vegetation map of the state. **J. S. Beard**

See also: Collections, plant; Environment; Plant adaptation; Scientific societies

Further reading: J. S. Beard, *Plant life of Western Australia* (1990); G. F. Craig, *Pilbara coastal flora* (1983); J. S. Pate and J. S. Beard (eds), *Kwongan, plant life of the sandplain* (1984); G. G. Smith, *A guide to the coastal flora of South-Western Australia* (1973)

Venereal disease Like other sexually transmitted diseases, venereal diseases were traditionally seen as a moral as well as a medical threat to Western Australian society. Women were widely blamed for the transmission of such diseases and legislation introduced was used to target 'promiscuous' women. This was particularly so in times of war. Under a controversial 1915 amendment to the 1911 *Health Act*, the Health Commissioner gained the power to compulsorily treat people: first on the basis of a signed statement from an informant, later simply when he had 'reason to believe' that a person was suffering from venereal disease. At the same time, the prostitution industry was transformed, with semi-tolerated 'red light' districts in Perth and Kalgoorlie.

In response to the increasing incidence of venereal disease among Aboriginal people in the north of the state, sufferers were isolated from the European population until they were 'cured'. In 1908 lock hospitals were established on Bernier and Dorre islands,

west of Carnarvon, and Aboriginal people were collected and detained. The facilities closed in 1917.

In 1942, at the time of the Second World War and facing an increased incidence of venereal disease, particularly in the Services, the WA government incorporated *National Emergency Act* regulations into its own *Health Act 1911*. Wide powers over personal freedom included the detention and examination of those persons suspected of carrying the disease and forced medical attention or hospitalisation. The laws, widened in 1944 to include regulations to deal with prostitutes, were strictly enforced. The discovery that penicillin was an effective treatment provided a medical reason for the assumption of these powers; however, the matter still remained one of morality. A Special Squad of the Police Department dealt with 'delinquency and immorality among girls' and investigated the information received from infected members of the forces as to the possible source of their infection.

Venereal disease management remained centralised in Perth, first at Royal Perth Hospital (RPH), later at the Moore Street Clinic, then in Murray Street and currently on the RPH site. As well as consultation, research, laboratory work and contact tracing, the work of the Venereal Disease Control Branch expanded. It increasingly managed a wide range of Sexually Transmitted Infections (STIs). In 1983, the initial response to the first AIDS case in the state was based on the same moral judgements and fear that had characterised the response to venereal disease. However, as the disease progressed, Western Australia's response, both official and societal, matured to include treatment within a broader context that included research, health promotion and community support, both in Perth and regional areas. **Sue Graham-Taylor and Morris M. Gollow**

See also: HIV–AIDS; Public health; Royal Perth Hospital

Further reading: R. Frances, *Selling sex*, (2007); E. McKewon, *The scarlet mile: a social history of prostitution in Kalgoorlie, 1894–2004* (2005); D. Snow, *The progress of public health in Western Australia, 1829–1977* (1981)

Vietnam War Although the origins of Australia's involvement in the Vietnam War can be traced to the 1950s, when the Menzies government recognised the French puppet government in the south, the first Australians, technically a training team, were sent to Vietnam in 1962. There were no specifically Western Australian units sent; by 1950 servicemen and women from all states were incorporated into national units. Like other Australian military personnel, from 1966 Western Australian soldiers fought in Bien Hoa and Phuoc Tuy provinces in South Vietnam. More than 50,000 Australians from the three branches of the armed services fought in Vietnam; 520 were killed and 2,400 wounded. Sixty-one Western Australians died. The McMahon government began to wind back Australia's involvement in 1971 and the Whitlam government withdrew the last few soldiers in late 1972. Australia's involvement formally ended with a proclamation by the Governor-General on 11 January 1973, some two and a half years before the fighting ended there on 30 April 1975.

Australia's involvement in the war engendered great political conflict in Western Australia. It was supported by organisations like the RSL and conservative newspapers and politicians who argued that Australia needed to take a stand against what they saw as the southward march of international communism. It was opposed by moderate and left-wing trade unions; women's, church and student groups; and ultimately by the Labor Party, who argued that the war was a civil war, which Australia had been dragged into by its alliance with the USA. The anti-war movement became the focal point in the radicalisation of young people during the 1960s.

By 1968 support for the war was fading. There were many demonstrations against the war, culminating in the moratorium marches through Perth in 1970.

In 1964 the federal government introduced national service (conscription) to provide troops for the war, and the first Western Australian national service group was called up in June 1965. They were conscripted at the age of twenty by a birthday ballot, were sent to Puckapunyal army base in Victoria for initial training, then to specialist training, before being sent to their units. Many Western Australian conscripts were sent to Vietnam and twenty-three were killed. Supporters of the war claimed that conscription was necessary to prosecute the war and military discipline would be good for young men. Opponents argued that young men were being conscripted against their will to kill or be killed in a war they might have opposed; moreover, as twenty-year-olds, they did not even have the right to vote on the issue of conscription. Although most Western Australians supported national service, sending conscripts to Vietnam—an overseas war front—was less popular. Conscription divided Western Australians along much the same lines as did the war itself.

Western Australian soldiers came home to a state which wanted to forget the war. Ex-soldiers formed a branch of the Vietnam Veterans' movement to represent their interests, and took part in Welcome Home marches in the 1980s. In 2002 a memorial to soldiers killed in Vietnam was unveiled in Kings Park. Australia's involvement in the war remains controversial, and many people now regard our involvement as a mistake, although there is little sense that Australia was part of the losing side. **Charlie Fox**

See also: Army; Conscription; Pacifism; Peace movement; Returned and Services League; War memorials
Further reading: P. G. Edwards, *A nation at war: Australian politics, society and diplomacy during the Vietnam War 1965–1975* (1997); J. Grey and J. Doyle (eds), *Vietnam: war, myth and memory: comparative perspectives on Australia's war in Vietnam* (1992); J. Murphy, *Harvest of fear: a history of Australia's Vietnam War* (1993); S. Rintoul, *Ashes of Vietnam: Australian voices* (1987)

Vlamingh's journey Willem de Vlamingh (1640–1698?) was commodore of the ships *Geelvinck*, *Nyptangh* and *Weseltje*, which were dispatched by the Dutch United East India Company in 1696 to investigate the loss of the *Ridderschap van Holland.* That ship had disappeared after leaving the Cape of Good Hope in 1694, bound for Batavia (Jakarta). It was thought that the ship could have been wrecked on the Australian coast, and that some crew might have survived. The expedition was directed to search for wreckage and survivors along the west coast of the continent and to determine whether anything of value might be obtained there. They were also to look for any crew of the *Vergulde Draeck* who might have survived since that ship was wrecked in 1656—a forlorn hope!

Vlamingh did not find any shipwreck survivors, nor did he solve the mystery of the loss of the *Ridderschap van Holland*. However, expedition members explored and carefully charted much of the coast between the Swan River and North West Cape, producing an excellent map and naming several features, including *Eylandt Rottenest* (Rottnest Island) and *Swane Rivier* (Swan River). Vlamingh was entranced by the unspoilt charm of Rottnest and by the beauty of the Swan River. Members of his expedition explored parts of the Swan River area on foot, becoming the first Europeans to conduct significant land exploration in Australia. **Phillip E. Playford**

See also: Dutch maritime exploration; Plates, Hartog and Vlamingh

Further reading: P. E. Playford, *Voyage of discovery to Terra Australis: by Willem de Vlamingh in 1696–97* (1998); G. Schilder, *Australia unveiled: the share of the Dutch navigators in the discovery of Australia* (1976); G. Schilder (ed.), *Voyage to the Great South Land, Willem de Vlamingh, 1696–1697* (1985)

Volunteers Voluntary community activity in its early years was largely informal (neighbour helping neighbour), faith-based (through religious affiliation), and class-based, with the wealthy and middle class assisting the poor. (The term 'volunteer' was also used of those who enlisted voluntarily in the armed services during wartime.) The *Associations Incorporation Act 1895–1969 (WA)* and subsequently the *Associations Incorporation Act 1987 (WA)* provided a legal framework for voluntary organisations.

Early records of volunteer service are mostly confined to minutes of such associations, personal diaries and reminiscences. Community concern about declining volunteer effort led to the First State Seminar on volunteering in 1986. The Volunteer Centre of Western Australia was incorporated in 1988, creating a formal network of non-government organisations focusing on the needs of volunteers and organisations involving volunteers. A 1995 ABS national survey of volunteer work found that WA volunteers were more active outside the cities, were most likely to be family members with dependent children, male, in paid employment, aged between thirty-five and forty-four, holders of post-school qualifications and born in Australia. Volunteers typically worked in sport, recreation and hobby organisations; in education, training and youth development; welfare, community and religious groups. Men were most likely to be involved in management committee work and fundraising, with women more likely to be involved in preparing and serving food and fundraising. A subsequent ABS survey in 2000 provided insight into the growth and changing nature of volunteering. It estimated that, overall, one in three Western Australians were volunteers, contributing a total of 70.8 million hours of unpaid work through organised volunteering.

In 2001, the International Year of Volunteers, communities offered recommendations for the future of volunteering. A ministerial portfolio for volunteering was created, and funding, insurance, training, recognition and accountability for volunteering activities were placed on the political agenda. Community awareness and understanding of the role of volunteers has increased, and a culture of informal volunteering remains strong and largely unrecorded in the Western Australian community. **Sallie Davies**

See also: Colonial volunteers; Silver Chain; Welfare

Further reading: M. Brockway (ed.), *It makes a difference to this jellyfish*: *a history of volunteering Western Australia, 1988–2000* (2001); H. Forte and M. Paull, *Volunteering in Western Australia: trends and patterns 1995 to 2000* (2001)

VP Day VP (Victory in the Pacific) Day, Wednesday 15 August 1945, celebrated the defeat of Japan in the Second World War. Japan's surrender was anticipated: rumours fuelled spontaneous celebrations in Perth over four days; and the Commonwealth government foreshadowed two victory holidays. Prime Minister Chifley's announcement, 'The war is over', at 7 a.m. (WST) on 15 August, made it official. Crowds gathered in central Perth in boisterous celebrations with conga lines and 'an orgy of kissing', but little disorder. There were similar celebrations in regional towns across the state. On 16 August over 100,000 people crowded central Perth, blocking traffic: only trams inched through Hay and Murray streets. The mood was joyous and good-humoured during a thanksgiving on

the Esplanade and a victory march. Some 35,000 attended children's entertainment at the WACA ground. That night, city streets were illuminated.

Anniversaries of VP Day became low-key commemorations attended by the Japanese consul-general. The title VJ (Victory over Japan) Day was preferred by some former prisoners of war of Japan and by migrants from Britain, New Zealand and the United States, but VP Day remained the popular Australian term, endorsed by the Returned and Services League.

The Commonwealth government funded Australia-wide celebrations of the sixtieth anniversary of VP Day in 2005. Exhibitions and a march featured in Fremantle. Perth held a veterans' reception and a concert in Forrest Place. Some minor media debate flared over the terms VP or VJ Day. **Lyall Hunt**

See also: Returned and Services League; Second World War
Further reading: J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

W

WA Academy of Performing Arts A 1978 report for the Western Australian Post Secondary Education Commission (WAPSEC) established the need for a tertiary training institution in performing arts in WA. It envisaged a small and decentralised college that would offer adult education and community courses as well as training for dancers, actors and professional musicians. In 1979 the Mount Lawley College of Advanced Education submitted a proposal to form a college of performing arts at Mount Lawley. The Western Australian Academy of Performing Arts (WAAPA) was officially opened in December 1979, taking in twenty-four students in 1980. In 1991 the WA College of Advanced Education became Edith Cowan University, and within this institution WAAPA runs as a government-funded vocational education and training program.

WAAPA is Western Australia's first and only tertiary vocational institution for training in the performing arts. It has an international reputation for state-of-the-art facilities and for excellence in its areas of specialisation: acting; dance; classical, jazz and contemporary music; musical theatre; production and design. Each year staff and students produce a range of public performances that make a valuable contribution to Perth's cultural life. Staff who hold significant reputations for skill in each field are employed to train students. Notable among these have been Lucette Aldous, Alan Alder and Nanette Hassall. Dr Geoffrey Gibbs served as Principal, Dean and Director of WAAPA over a period of eighteen years, until his resignation in 1998. He worked tirelessly to raise the profile and standing of the institution.

WAAPA currently has approximately 800 students and has produced a number of world-class actors including Martin Crewes, Marcus Graham, Hugh Jackman, Lisa McCune, William McInnes and Frances O'Connor. **Helena Grehan**

See also: Acting; Dance, performance; Edith Cowan University; Music, tertiary education; Musical theatre; Theatre and drama; Youth theatre
Further reading: G. Bolton and G. Byrne, *The campus that never stood still* (2001); Western Australian Post Secondary Education Commission, *Education for the performing arts: a review of post secondary needs in Western Australia* (1978)

WA Inc. was the label given in the Western Australian community to the failings, mainly in commercial activities, of the Western Australian Labor governments of the 1980s, especially those led by Brian Burke and Peter Dowding. These governments sought to gain independence from reliance on intergovernmental financial transfers and revenue raised by state parliament by embracing innovative policy reforms. These included making financial demands on government–business enterprises and having government purchase a share of a private company. Allied to this were financial links between big business and the Labor Party, including rights and property deals for favoured entrepreneurs, and rescuing failed financial institutions, some more than once. WA Inc. was not restricted to financial losses: the executive's accountability

to state parliament was weakened, thus exposing the failings of Westminster-style conventions in a strong party system. There was much interpenetration of government and business, while surveys of senior officials concerning the ethical impact of a new breed of ministerial advisers on public-sector processes and outcomes revealed issues of great concern. The government's effort at placing a positive spin on news was overwhelmed by a full-blown mediated political scandal, but, remarkably, Labor survived the 1989 election.

The restoration of accountability resided chiefly with the appointment, in January 1991, of a Royal Commission into Commercial Activities of Government and Other Matters (widely known as the WA Inc. Royal Commission) by Labor Premier Carmen Lawrence. One outcome was the creation of a Commission on Government which recommended a host of accountability measures. Meanwhile, several public figures, particularly Brian Burke, had their reputations damaged by the revelations and subsequent court actions. **Allan Peachment**

See also: Australian Labor Party; Parliament; Politics and government; Royal Commissions
Further reading: P. O'Brien and M. Webb (eds), *The Executive state: WA Inc and the Constitution* (1991); A. Peachment (ed.), *The Business of Government: Western Australia 1983–1990* (1991); A. Peachment (ed.), *Westminster Inc: a survey of three states in the 1980s* (1995); B. Stone, 'Taking "WA Inc" seriously: an analysis of the idea of its application to Western Australian politics', *Australian journal of public administration*, 56, 1 (1997)

Waakarl is a Nyoongar word meaning Creation or Spirit Snake. Nyoongar wangkiny (talk) says that the Waakarl is the Spirit Snake that created the earth, the people, the animals, the plants, and all the rules about living.

Nyoongar from out around Brookton and York talk about how the Waakarl came out of the earth. It went different ways, making tracks through the hilly country. Sometimes it went kardup (under) boodjar (earth, ground), and sometimes it went yira (over) boodjar. The Waakarl's kaboorl (snake's stomach) pushed the boodjar and boya (rocks, stones) into kart (hills). You can see the Waakarl's path in the shape of the boodjar.

Nyoongar believe that the Waakarl made the bilya (river) which Wadjella (white people) call the Swan River. The Waakarl travelled from Brookton, through York, Northam, Toodyay, the Swan Valley, Perth, Fremantle, and out to Wadjemup (Rottnest Island). The Waakarl stopped for a rest at many places along the bilya. It stopped near Kings Park. Nyoongar call this part of the river Darbal (estuary) Bilya. You can look down on Darbal Bilya from Kings Park.

Sometimes Waakarl is spelled Waugal or Wagyl. **Len Collard**

See also: Aboriginal culture and society; Dreaming of the Seven Sisters
Further reading: T. Bennell, compiled by G. Collard, *Kura* (1993); L. Collard, *The Waakarl story* (2000); E. Kickett, *The trails of the rainbow serpents* (1995)

War memorials are a familiar presence in most cities, towns and suburbs in WA as they are throughout the nation. The first public war memorial in WA was the South African Memorial (built in 1901–02) in Kings Park; however, the most concentrated period of memorial building occurred in the interwar years when hundreds of, generally modest, memorials were erected in prominent public places by local communities large and small. Private memorials were likewise installed in schools, offices and workshops, churches, and clubs. All had a common purpose of honouring men and sometimes women who had served in the First World War or

died as a result of war service. They were an important focus for grieving and acted as a substitute grave for loved ones buried overseas.

Memorials were erected following the Second World War, but in many localities commemorative plaques were added to existing memorials with subsequent inscriptions acknowledging Australia's participation in wars in Korea, Malaya, Vietnam, and United Nations' peace-keeping operations. Numerous memorials, such as in Kings Park, also honour specific service units, prisoners of war, Aboriginal servicemen and Australia's war allies. At Albany a memorial rose garden (1935) is dedicated to Australian war nurses and there is a Holocaust Memorial (1995) in Stirling Gardens, Perth.

Memorials may be monumental—a stone obelisk, column, cross, statue—or utilitarian—a community building, clock tower, park, sports ground or tree planting. Each of the hundreds of memorials distributed across the state is distinctive through association with the local community, significant personalities or events. The State War Memorial (1929) and honour avenues in Kings Park, the Desert Mounted Corps Memorial (1964) on Mount Clarence, Albany, and HMAS *Sydney* Memorial (2001) at Geraldton exemplify the diversity of memorial forms and the continuity of memorial building.

War memorials provide a place and focus for remembrance, sharing traditions such as Anzac Day services, and confirming national identity and values. New communities established since the Second World War lacking local traditions have erected memorials to satisfy such needs. The 1990s witnessed a resurgence of national sentiment, the high point of which occurred in 1995, the Australia Remembers year. Long-standing traditions were given new life, old memorials refurbished and past omissions redressed with the building of distinctive new memorials reflecting contemporary tastes and ideas.

Oline Richards

See also: Anzac Cottage; Anzac Day; Armistice Day; Boer War; First World War; HMAS *Sydney*; Kings Park and Botanic Garden; Korean War; Malayan Campaign; Returned and Services League; Second World War; Vietnam War; VP Day

Further reading: K. S. Inglis and J. Brazier, *Sacred places: war memorials in the Australian landscape* (1998); O. Richards, 'The Avenue in Peace: Honour Avenues of the Great War in Western Australia', in M. Bourke and C. Morris (eds), *Studies in Australian garden history*, 1 (2003); O. Richards, 'The Empty Tomb', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); O. Richards, *War memorials in Western Australia* (1996)

Waroona The shire of Waroona lies approximately 107 kilometres to the south of Perth. It stretches westward from the coast and eastward to the Darling Range. William Drake, the earliest European settler, was granted land in the district in 1847, although he later returned to England. Settlement was initially slow but received a boost with the construction of the Pinjarra to Picton railway line in 1893. Timber mills were constructed during the 1890s and by 1899 there were five mills in the district. A siding constructed at Joseph McDowell's Mill led to the establishment of Drakesbrook (named for William Drake), which was gazetted in 1895 (the name was changed to Waroona in 1946). Millars Timber and Trading Co. Ltd built a mill town at Nanga Brook in about 1908. The town was completely destroyed by a bushfire in 1961. The government established a state nursery at Hamel in 1897, which initially grew only commercial pine trees before expanding to include other tree species. Agricultural development had initially been hampered by the swampy nature of the district. This was resolved from 1910 with the construction of drainage channels and ditches. Irrigated pastures led

to the development of a dairy industry, and in 1932 the Nestlé Anglo-Swiss Condensed Milk Co. built a factory in Waroona. In 1920 lime works were established at Lake Clifton, although the venture was of short duration. A rise in cattle numbers saw the construction of the Waroona Abattoir in 1957. Increased industrial development emerged in 1958 when the Western Mining Corporation commenced bauxite mining in the Darling Range. In partnership with Alcoa, they constructed a refinery at Wagerup in 1982. **Fiona Bush**

See also: Alumina; Dairying; Horticulture; Railways; Timber industry; Timber towns
Further reading: R. Richards, *Murray and Mandurah: a sequel history of the Old Murray District of Western Australia* (1993); L. J. Snell, *Drakesbrook days and Waroona years* (2000)

Wartime propaganda is the organised distribution of information biased in favour of or against a country or cause. In Western Australia, wartime propaganda began with fulsome admiration of the British Empire during the Boer War (1899–1902). This patriotic line continued in the first years of the First World War, along with gorilla-like representations of the German leader Kaiser Wilhelm and his soldiers. This cohesion was followed by attacks on people who were different and the removal of German place names in suburbs like Subiaco. The unifying patriotism dissipated during the brutal conscription referenda of 1916 and 1917.

After the bizarre anti-German propaganda of the First World War, the Second World War began calmly enough in WA newspapers, with local heroes, advocacy of empire, overblown claims of Allied successes in Europe and an occasional early (but incorrect) mention of Germans using poisonous gas. Later Commonwealth propagandists cautiously walked the narrow line between convincing Australians of the seriousness of their situation and

the likelihood of causing panic. When bad news had to be released, any good news was released first. HMAS *Sydney* was 'successful' in her encounter with HSK *Kormoran* off Carnarvon. That all 645 hands were lost came later. Likewise, Commonwealth announcements on property damage caused by Japanese air attacks on WA were recorded soberly by *The West Australian* but loss of life was grossly understated. A government report after the Japanese attack on Broome, in March 1942, listed no deaths; a secret Defence Department minute set the figure 'conservatively at 60'.

The same month the Commonwealth Department of Information (DOI) began a series of race-based hate attacks on the ABC, some commercial stations and in the *Daily News*. 'The Japs', noted a so-called expert commentator, were 'semi-civilised' and 'yellow monkey men from the north'. They had been trained from birth to be fanatical; our anger was righteous. There were several such scripts, typically concluding with, 'We have always despised them, now we must smash them'. The DOI was in for a shock, however. Polling found 66 per cent of Western Australians did not think this propaganda 'was a good idea'. The hate series soon stopped. The Army's Western Command produced guides so the public could tell Chinese from Japanese, who were 'bow-legged, pigeon-toed and walked with a short stride'. Other advertisements featured John Curtin advocating hard work and austerity—and opposed to sport. He asserted, 'Brains and brawn are better than bets and beer', and similar themes. From a peak in 1942–43 the advertisements became less strident as Australia's security position improved, and shifted towards reconstruction. There were also state government propaganda wars against sex, disease and ill-health generally.

The 'downward thrust of communism' became the propaganda theme of conservative politicians and newspapers supporting interventions in Korea and Vietnam during

the Cold War. The twenty-first century opened with the War on Terror. **Ron Davidson**

See also: Asia, relations with; Censorship; First World War; Second World War
Further reading: R. Davidson, 'Papers, people and propaganda' in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996)

Water management Modern interpretations of water resources management place great emphasis upon its inescapably inclusive character: water as everybody's business and responsibility.

Water management was pivotal to Indigenous culture. Aboriginal communities employed the rivers and wetlands of the South-West for centuries, and the watermark was also prominent in the ecological wisdom of the thinly scattered peoples of the great deserts. In the Kimberley, ancient migration flows traced the dominant wet–dry rhythms. However, while Indigenous culture maintained a spiritual connection to water, most Europeans saw water as a resource to be used.

For the most part, European management of water relied upon experimentation by generations of pioneering settlers in both town and bush, and upon government and private investment in science, technology and education. The quest for convenient, safe and reliable water supplies, harbours and navigable streams was essential in the selection of early townsites Perth, Fremantle and Albany. Environmental imaginations were roused by accounts of expeditions into the interior and north, by scientific and other speculations on the causes and incidence of drought, and through realisation of the connection between poor water quality and life-threatening diseases such as typhoid, cholera and malaria. In and around Perth, the early watermark became strongly evident in a precarious dependency upon springs and rudimentary wells, and in chronic uncertainties about the

worth of coastal wetlands. 'Sanitarian' concerns favouring the use of uncontaminated streams in nearby hills led to the construction in 1891 of the colony's first significant water facility, the Victoria Reservoir, on Munday Brook.

WA remained very thinly populated into the 1890s, but major innovations were required to meet the water needs of thousands of gold miners and an expanding railway system. Railway engineers proved adept at exploiting small natural catchments. Miners sank innumerable bores into saline groundwater, coupling them with cumbersome 'condensers' to provide acceptable supplies.

From 1895, Engineer-in-Chief C. Y. O'Connor built Mundaring Weir on the Helena River in the Darling Ranges and proceeded to transport the impounded water by pipeline over a distance of about 560 kilometres to burgeoning mining districts around Kalgoorlie. The historic scheme was completed in 1903.

WA nonetheless remained a conspicuously isolated, sparsely populated behemoth in a famously dry, remote and empty continent. The state's water-management specialists continued to function as the recipients and instigators of change. In and near Perth, the twentieth century brought renewed efforts to dredge and reclaim urban wetlands, ensure more effective control over the Swan and its frontages, and service a suburban expansion based upon detached private residences. One of the more significant achievements was the development of the Hills Water Supply Scheme in the interwar years. The completion of Canning Dam in 1940, initially billed as a boost to unemployment relief during the Depression, was essential to the metropolitan supply system.

Beyond the capital, a swift expansion of wheat and sheep farming into vast, riverless tracts fully tested the water specialists. At first, this new frontier was supported by upgrading natural soaks and rock holes, bore-wells along key roads, the erection of

iron water tanks at railway sidings, and the provision of assistance to enable farmers and pastoralists to follow suit. In the interim, the government had chosen the Harvey Agricultural Area to the south of Perth for its first determined effort at sponsored irrigation during the Depression. By the mid 1940s, national debates on postwar reconstruction encouraged the introduction of bolder projects using joint federal–state funding. The renowned pipeline was recast as the pivot of a 'Comprehensive Agricultural Areas Water Supply Scheme' linking the new agricultural belt to the Eastern Goldfields and the coast. A pared-back version was finished in 1947. Consolidations from 1963 brought regional coverage closer to the original draft, and the incorporation of improvements in domestic and stock supplies offered enhanced stability and amenity. The sculpting of small catchments was not complemented by attention to the cautionary advice of expert soil scientists, and severe salinisation was the result.

The last thirty years of the twentieth century featured an emergent focus on the state's central and northern sectors. This included the early phases of the much-disputed Ord River project in the Kimberley, and the servicing of a new minerals boom in the Pilbara and elsewhere encouraged fresh techniques for an intricate intermeshing of industrial, agricultural and residential water supplies. There was also a renewed emphasis on the growth of metropolitan Perth, and on the needs of Kwinana and other industrial nodes. One outcome was a more pronounced reliance on groundwater in and around Perth. These trends were accompanied by a rising demand for improved monitoring and protection of aquifers and river catchments, and by growing anxiety over the loss of environmentally significant coastal wetlands.

The management of water became simultaneously more dependent upon science and technology, more open to multi-disciplinary and interdisciplinary perspectives drawn principally from the environmental and social sciences, and more interested in international trends in monitoring, standards-setting, and water law reform. There were also accelerated withdrawals from old-style government-led constructionism, and promotion of individual and collective responsibility to elicit market-focused initiatives from private users.

Statewide water use doubled between 1985 and 2000 and seemed set to double again by 2020. The liveliest debates concentrated on ways of meeting the water needs of Perth. They focused on three main options: 'smarter' use of orthodox south-western sources; a pipeline from the distant, water-rich Kimberley; and seawater desalination. Another popular suggestion favoured the towing of Antarctic icebergs to moorings near Perth.

After the intervention of another severe drought in the new millennium, the major response, in 2003, was a more comprehensive State Water Strategy. Key elements of this policy were the promised adoption of a 'whole of cycle' approach (water, wastewater, drainage, re-use, conservation), reductions in per capita metropolitan domestic consumption, and re-use of an increased proportion of treated wastewater, for example, by means of the Kwinana Water Reclamation Plant (2006) to reduce industry demand for scheme water by recycling secondary treated wastewater. In the irrigation sector (in 2003 accounting for approximately 40 per cent of state consumption), improved coordination of the planning of land use and water allocation was promised, entrenched 'use it or lose it' attitudes were questioned, and attention was drawn to the accumulating consequences of chronically undervalued water services. Similarly, as in other parts of Australia, the hallowed connection between water entitlements and land ownership was challenged. Reforms in these areas were expected to stimulate greater economic and environmental efficiencies by means of 'water trading', which would transform rural consumption.

The search for new sources of water in a drying climate resulted in the construction of Australia's first large-scale seawater desalinisation plant at Kwinana in 2006, which quickly became Perth's largest single source of water, supplying 17 per cent of the city's needs. A new supply source will be needed for the city by 2009 and one option is extraction from the Yarragadee aquifer.

The WA experience is representative of the wider history of Australian water management. It has reached a critical juncture when even the least engaged people may be persuaded at last that stumbling from crisis to crisis will not do, yet state and federal governments alike seem determined to jettison the concept of water as a public heritage, better managed as a special resource for the common good rather than a mere commodity. The widespread introduction of water trading cuts the time-honoured tie between land and water, opens the door to escalating privatisation and will effectively deliver the key national resource into foreign ownership, destroying the prospect of a lasting relationship between community and water on which our peaceful and productive survival on this challenging continent must depend. **J. M. Powell**

See also: Agriculture; Aquaculture; Dams and reservoirs; Environment; Goldfields water supply; Hills water supply; Irrigation; Ord River scheme; Rivers; Salinity

Further reading: S-J. Hunt, *Water: the abiding challenge* (1980); J. M. Powell, *Watering the western third: water, land and community in Western Australia, 1826–1998* (1998); Water and Rivers Commission, *Water Resources Management in Western Australia. Achieving a Sustainable Future* (2004)

Water police As a result of a daring convict escape by water in January 1851, the colony's Imperial Water Police were formally instituted in May that year.

Unlike the situation for other jurisdictional appointments, the colonial governor had the authority to appoint the superintendent and constables of the Water Police, thereby preventing the time-consuming process of waiting for appointments to be authorised in England. The first Inspector of Water Police was George Clifton, a twenty-seven-year-old ex-Navy officer, who handpicked his first five Water Police constables. A Water Police barracks was immediately built close to harbour activity near the Roundhouse in Fremantle. By 1860 they were based in new offices on Marine Terrace.

The first police launch, the wooden-hulled *Cygnet*, was originally brought out from England in 1891 for the use of C. Y. O'Connor during the construction of Fremantle Harbour. Once dredging had finished, the Public Works Department handed the launch over to the Water Police to replace their dinghy and a whaleboat. This vessel, *Cygnet I*, was converted to steam in 1921, and continued to patrol the river until 1956, when she was sold to pay for a new *Cygnet*. To the current *Cygnet V*, a Water Police *Cygnet* has continued to patrol the river and shore.

By 1901 the Water Police had grown to include 'one sergeant, one coxswain, 11 constables'. However, numbers were reduced substantially between 1930 and 1935, to just one water policeman in the metropolitan area, and one in Shark Bay. From this time until 1952, the base for the Water Police was a weatherboard boatshed at Barrack Street Jetty in Perth, and its focus was river activity. In 1952 the duties of the patrol staff of the Fremantle Harbour Trust were absorbed by the police, thereby returning the Water Police to Victoria Quay.

In 1958 the Police Diving Squad was introduced, and in 1997, when the Water Police moved to a new purpose-built base on the river at Harvest Road, North Fremantle, police and dive squad were brought together under the one roof. An Intelligence and Investigation unit was established in 1998,

making detectives an additional part of the Water Police team.

Water police activities over the years have included guarding treasure from the wreck *Eglinton* off the coast of Wanneroo in 1852; the successful 400-mile pursuit of escaped convicts to Shark Bay in 1859 and the less successful attempt to recapture the escaping Fenians in 1876; water police divers finding the rifle used by serial-murderer Eric Edgar Cooke, which helped lead to his conviction in 1963; and numerous water rescues, including that of a four-year-old girl on Australia Day 1995, for which police divers were subsequently awarded the Governor's Commendation for Bravery.

At their establishment in 1851, the jurisdiction of the Water Police was deemed 'to include all waters on the coast within fifteen miles of Arthur's Head and within the Swan River from the bar thereof as far as the ferry jetties at and opposite Preston Point'. In 2008 the state's Water Police have the largest police jurisdiction in the southern hemisphere. They maintain five patrol vessels and are responsible for Western Australia's 12,500 kilometres of coastline. They remain a specialist unit within the WA police and their duties today range from marine watch to nuclear safety and customs. **Michelle McKeough**

See also: Fenians; Police and policing
Further reading: M. Bentley, *Grandfather was a policeman: The Western Australia Police Force 1829–1889* (1993); M. McKeough, *Rescues, rogues and rough seas: 150 years of the Water Police in Western Australia* (2001)

Water polo in Western Australia was officially established in 1947. Six swimming clubs formed the original association: Melville, South Fremantle, Nedlands, City, Guildford and Claremont. The early fixtures were played at South Beach and in the Swan River, mainly

at the Claremont and Bicton Baths. The first grand final was played between South Fremantle and Melville in 1947. After the British Empire and Commonwealth Games in 1962, the association headquarters moved to the newly completed Beatty Park Aquatic Centre.

Since 1956, twenty-three WA players and coaches have been chosen to represent Australia at twelve Olympic Games. Numerous European tours, world championships, Australian titles and the annual Tom Hoad Cup at the Bicton pool have etched names such as Hoad, Allan Charleston, Neesham, Glenn Townsend, Richard Pengelly and Brigette Gusterson in water polo history. Three Western Australians were in the gold-medal-winning women's water polo team at the Sydney Olympic Games in 2000. The previous national women's coach, David Neesham, was appointed national men's coach in 2005.

Current elite programs for talented junior and senior athletes are conducted at Challenge Stadium and the Western Australian Institute of Sport (WAIS). Other activities include school lightning carnivals and independent girls' school and Private Schools' Association (PSA) boys' competitions. The Flippa Ball program has over 700 children between the age of eight and twelve years participating. Currently, there are eight metropolitan clubs—City Beach, Dolphins, Melville, Phantoms, Somerset, Triton, Torpedoes and Wanneroo—and six country associations—Bunbury, Busselton, Geraldton, Goldfields, Peel and Port Hedland. The Beaurepaire Trophy is awarded annually to the player or administrator who makes the greatest contribution to water polo in the state. In 2006 there were 2,500 registered water polo players in WA. **Pamela Neesham**

See also: Empire and Commonwealth Games; Swimming; Swimming baths; Western Australian Institute of Sport; Western Australian Olympic medallists (list)

Further reading: N. De Mestre and D. Neesham, *Water polo: techniques and tactics* (1972)

Weebo stones incident The Weebo stones constitute a sacred site, which plays a major role in Aboriginal lives, particularly in the Leonora/Lake Darlot region, but also across the goldfields and the Western Desert. Restricted to initiated men, they form part of a cycle of ceremonial and sacred object exchange. The Weebo stones incident began in late 1968 when mining leases were granted on Weebo Station, about 115 kilometres north of Leonora. Subsequently, stones were removed, a violation that caused an outcry, initially from local Aboriginal people, who sought through the Mining Warden's Court to have excavations stopped. An adverse decision there intensified efforts to protect Weebo and escalated the debate. Protests included an Aboriginal mission to Canberra, letters to major newspapers, a twenty-four-hour student sit-in in St Georges Terrace, and the pegging of the Kings Park War Memorial. By mid April 1969, the state government had bowed to public pressure and announced it would stop any mining at Weebo. Following a State Cabinet committee investigation, a permanent reserve was then declared around the sites.

The incident's significance was threefold. It generated unprecedented Aboriginal activism in the Western Australian courts and media, an equally unprecedented level of sympathy for the Aboriginal position from the broader community, and it was a major impetus for the 1972 *Aboriginal Heritage Act*. **Craig Muller**

See also: Aboriginal culture and society; Heritage
Further reading: G. C. Bolton, 'Black and white after 1897', in C. T. Stannage (ed.), *A new history of Western Australia* (1981); Department of Native Welfare, 'Preservation of Aboriginal Sacred Sites Weebo Station', file, State Records Office of Western Australia, accession number 1724:227/1969

Weld Club Founded in 1871 by former British officers, and named after the then governor, the Weld Club recruited its foundation members largely from the colony's official ranks. Many were recent arrivals to the colony. Over the next twenty years men from pioneer families gradually joined, as did newcomers associated with railway, telegraph and early mining interests. Its first clubhouse was in St Georges Terrace, its second (formerly Lionel Samson's house) stood on the corner of the Terrace and Barrack Street. There it remained until Talbot Hobbs designed the present clubhouse at 3 Barrack Street, Perth, which opened in 1892, and for many years the Club was regarded as a second home to Perth's establishment. The mining men and pastoralists from the North-West provided an exuberance which was later eclipsed by a growing quietness, as Perth's political and social landscape changed. For much of the twentieth century the Weld was run on frugal lines, although the grounds included tennis courts and a bowling green. Among the many changes were the retirement of the last Chinese staff in 1927 (replaced by female servants) and the discontinuation of resident members in 1979 (the last being T. S. Louch, the Club's first historian). A huge increase in land taxes and rates in the 1980s led to the Club leasing part of its land to a developer. The result, the Exchange Plaza, enabled the Weld to face the challenges of the twenty-first century with some confidence. **Paul de Serville**

See also: Class; Karrakatta Club; Western Australian Club
Further reading: T. S. Louch, *The history of the Weld Club 1871–1950* (1980); P. de Serville, *3 Barrack Street: the Weld Club, 1871–2001* (2003)

Welfare refers to various kinds of support for individuals and families who, for economic and social reasons, do not have secure jobs, adequate housing, or access to healthcare. In the nineteenth century some help was provided for these people by the charitable work of individuals and groups within the Christian churches, who undertook to establish orphanages for children, missions for Aboriginal people, and lying-in homes and hospitals, many of which received some government financial support once they were established. The poor houses of the nineteenth century, funded entirely by the colonial government, catered for the destitute.

Before 1890 the colonial government represented only the wealthiest sections of a very small population and collected very little revenue. However, self-government was granted in 1890 and all males aged twenty-one years of European descent were enfranchised in 1893; followed by women of that age of European descent, often the initiators of charitable activities, in 1899. In 1907 land and income taxation was introduced to increase state revenue. The flat tax of four pence in the pound changed to graduated tax in 1912.

Although charitable bodies proliferated in the twentieth century, a new concept of 'welfare' began to emerge at the end of the nineteenth century, as more and more people began to understand how difficult it was for many people to maintain themselves as cycles of economic crisis alternated with prosperity. An argument developed slowly about the right of individuals in the community to a minimum level of care from a range of services. These ideas resulted from the convergence of several doctrines, including that of universal human rights, the proselytisation of Christian evangelism, socialist criticisms of the capitalist economy, and the more conservative advocacy of state support for the unemployed by those interested in maintaining the capitalist system in a democratic society.

One response was the passage of the Western Australian *Industrial Conciliation and Arbitration Act* in registering both workers' unions and employer bodies, and beginning the process of wage fixing. The Commonwealth government, established in 1901, passed the *Arbitration Act* of 1904 and subsequent related legislation. The Harvester judgement of 1907 by Justice Higgins delivered to all Australian male workers a minimum wage based on a needs principle. The family unit was defined as a breadwinner with a wife and three children. Women's wages were fixed at 54 per cent of the male wage.

The state government gradually expanded its responsibility in housing and health care and legislated in 1907, and again in 1947, for major policy changes in the provision of welfare for children. Many of the services for the aged and frail sections of the population were also funded by the state.

However, the idea that all citizens have a right to certain welfare provisions has been underpinned over time by new developments at the federal level. The *Invalid and Old Age Pensions Act* was passed in 1908 and, in 1912, extended to naturalised citizens and women of sixty years. In 1912 the first Commonwealth Maternity Allowance of five pounds was introduced. But the introduction of economic support for the majority of those in need did not occur until the Second World War. The Commonwealth collected all income tax from 1942 in order to prosecute the war and then to underpin postwar reconstruction, while, between 1939–45, the taxation base was altered to include lower-income earners in order to expand total revenue. The Commonwealth introduced pensions for widows and maternity benefits for Aboriginal mothers from 1942, old-age and invalid pensions from 1943, and unemployment, sickness and pharmaceutical benefits from 1944. These benefits remain the centrepiece of the welfare state, apply to all Australians, and can be financed because of the Commonwealth control of direct taxation.

Welfare is supposed to provide a shelter from the worst effects of the inequalities of the capitalist system but, in the case of Aboriginal people and migrants, it has also served as a means of control. In addition, it has tended to bolster the existing patriarchal relations existing in economic and social life. These issues have gradually assumed more importance in the politics of 'welfare'.

Welfare services introduced by the Commonwealth after 1901 represented a change from the haphazard and charitable relief given in the nineteenth century to provision by right of fixed rates of benefit defined in legislation and paid for out of government revenue at both state and federal level. Their introduction reflected a new understanding of the causes of poverty and a new attitude towards collective responsibility. **Penelope Hetherington**

See also: Aged care; Homelessness; Orphanages; Poor houses; Poverty; Silver Chain; Volunteers

Further reading: F. Castles, 'Welfare and equality in capitalist societies: how and why Australia is different', in R. Kennedy (ed.), *Australian welfare: historical sociology* (1989); T. H. Kewley, *Social security in Australia, 1900–72* (1973); R. Watts, 'The origins of the Australian Welfare State', in R. Kennedy (ed.), *Australian welfare history: critical essays* (1982)

Welsh The first Welsh people to come to Australia (two men and two women) arrived as convicts in 1788. Two centuries later, in 1991, according to Australian census figures, there were 27,956 Welsh-born in Australia. Traditionally, most Welsh immigrants settled in Victoria, New South Wales, Queensland and South Australia, contributing particularly to the mining industry and bringing a distinctive cultural identity, exemplified by the Welsh language, the eisteddfod, sobriety and religious nonconformity.

In 1832, in the newly founded Swan River colony, there were fourteen Welsh-born residents (twelve men and two women). By 1861 there were 91; then 1,026 by 1901; 1,547 by 1947; and 4,235 by 1981. Although Western Australia was always a popular destination for the British, who, in 2001, still constituted its largest immigrant group (11 per cent), the vast majority were English, followed by Scots and Irish. No Welsh immigrants to Western Australia were recorded in 2001. However, at the 2006 census 16,445 Western Australians claimed Welsh ancestry.

A Cambrian Society, established in Perth in 1896, later known as the Welsh Society of Western Australia, is still active, fundraising and organising social events, including the annual St David's Day gatherings. It meets monthly and has its own website. Links with Wales and expatriates in Australia are maintained through the publication *Yr Enfys, New Series, The Journal of Wales International*. Closely associated with the Society is the Trinity Church in St Georges Terrace, Perth. Opened in 1894, it was specifically designed to face the street in the style of non-conformists. The Welsh Free Church of Western Australia, Perth (Inc.), which celebrated one hundred years in WA in 2004, has always met at Trinity Church.

'Gwalia' is an archaic Welsh name for Wales, and the 'Sons of Gwalia' mine, established in 1896, was named by its Welsh syndicate. In 1912 a Gwalia Valley School was opened for some Welsh children in Moora, north of Perth, soon renamed 'Nardy', owing to confusion with another Gwalia school on the goldfields. These children came from several large extended families who had arrived in Western Australia from the Welsh colony in Patagonia (*Y Wladfa*) in 1910–11. Welsh Patagonians were courted before the First World War by Australian governments as ideal British settlers, skilled in irrigation. Promised land by the Western Australian government, they eventually chose Midland Railway Company blocks close together at

Moora–Miling. The area was known as Gwalia Valley, or Creslow, and is still remembered as 'the Welsh settlement', although most of the descendants of the original immigrants have moved elsewhere. **Michele Langfield**

See also: Choirs; Land settlement schemes; Migration
Further reading: M. Laurie, *Tracks through the midlands: a history of the Moora District* (1995); G. Edwards and G. Sumner (eds), 'The Historical and Cultural Connections and Parallels between Wales and Australia', *Welsh Studies*, 4 (1991)

Wesfarmers, the Western Australian corporate giant, had its origin in a farmers' cooperative, registered in 1914 as The Westralian Farmers Limited, with initial capital of £60,000 in £1 shares, and created out of desperation, at a time when the state was in severe drought. A Farmers and Settlers Association in 1913 had mooted a cooperative to market farmers' wheat. 'Cooperative' was added to the company name in 1924 and by then Wesfarmers had become the leader of the cooperative movement in Western Australia. Over the next fifty years, in addition to the buying and broking of wheat, Wesfarmers added to its services merchandise provision, machinery retailing and maintenance, milk marketing, a honey pool, superphosphate and rural banking, with the establishment of branches throughout the farming areas. Radio 6WF, now part of the Australian Broadcasting Corporation, was founded by Wesfarmers in 1924; it also ran its own printing works and a weekly newspaper. Wool trading, shipping, long-distance road haulage, insurance, fruit export, meat processing and export, pesticides and LPG distribution culminated in the 'bumper year' of 1968. This was also the decade when Wesfarmers became the first WA company to install a computer. Over the next thirty years, the company diversified further by seeking out opportunities for expansion, while moving out of many of its original operations, culminating in the complete divestment of all rural operations in 2003.

By 1979 the company capital stood at only $28.7 million. It was evident that if Wesfarmers were to continue to expand and diversify, the cooperative structure was inadequate and further funds had to be sought from the public. Consequently, Wesfarmers was publicly listed in 1984 and has grown into one of Australia's largest and most successful companies, operating through a portfolio of diversified business interests. These include retail operations of supermarkets, general merchandise and specialty department stores, fuel and liquor outlets and home improvement and office supplies; coal mining; gas processing and distribution; electricity generation; insurance; chemicals and fertilisers; and industrial and safety product distribution.

Wesfarmers' acquisition of the Bunnings name and businesses is of special note: Bunnings, originally a Western Australian sawmill operation, started in business in 1897 and its subsequent expansion in forest products, merchandising and hardware to some extent paralleled the early Wesfarmers expansion. This made it a take-over target for Wesfarmers, which acquired Bunnings in 1994, moving out of forest products by 2000 and focusing on the highly successful Bunnings Warehouse chain across Australia and into New Zealand. At one stage there were new warehouses opening on average every three months across Australia, giving rise to the claim that Bunnings is the southern hemisphere's largest hardware chain, with over 223 stores in Australia and New Zealand. There are around 200,000 employees in both countries and more than 400,000 shareholders. In 2008, net equity was over $19 billion with a 2007–08 full-year result of $16.9 billion revenue and $1.05 billion profit—the first since Wesfarmers bought Coles in 2007. Retailing now makes up 60 per cent of the company's earnings.

Since 1914, Wesfarmers has benefited from the leadership of some remarkable men who combined entrepreneurship with business acumen, identifying widely varying business opportunities as they arose. Basil Murray, inaugural general manager, was succeeded by John Thomson in 1925. He handed over to Keith Edwards in 1957, who was followed by John Bennison in 1973, then Trevor Eastwood in 1984. It was then Michael Chaney's turn, and the present CEO (2008), Richard Goyder, succeeded Chaney in 2005. Each CEO has been supported by a board representing business talent drawn from the Australian business world, necessarily a far cry from the farming cooperative's original board of Western Australian farmers.
Michael Crouch

See also: Advertising; Agriculture; Art collections; Art exhibitions; Chemistry; Festival of Perth; Radio; Retailing; Timber industry

West Australian The oldest surviving newspaper in Australia, except the *Sydney Morning Herald*, *The West Australian* was founded in 1833 as the *Perth Gazette and Western Australian Journal* by Charles Macfaull. After Macfaull's death it passed to members of the Shenton family until the death in 1871 of Arthur Shenton, following his fine and imprisonment for disrespectful comments about Chief Justice Archibald Burt. Its next owners, a syndicate of local businessmen, changed the name to *The Western Australian Times* in 1874 and *The West Australian* in 1879. In that year it was acquired by Charles Harper and Sir Thomas Cockburn-Campbell, who acted as editor. Winthrop Hackett, appointed business manager in 1883, succeeded Cockburn-Campbell as editor and managing partner in 1887.

Under the new regime the paper became a tri-weekly in 1883 and a morning daily in 1885. Its policy supported Governor Broome and favoured the pastoral interest. Hackett's editorial pugnacity attracted several lawsuits including an unsuccessful libel action by the missionary J. B. Gribble, attacked for his allegations of maltreatment of Aboriginal people by pastoral workers.

More constructively, Harper and Hackett founded *The Western Mail* in 1885, a weekly digest of *The West Australian* for rural readers which strongly promoted agricultural education and, later, local creative writing.

Originally doubtful about responsible government, *The West Australian* wielded considerable influence during the 1890s, in general expressing a balanced and sober conservatism and supporting Sir John Forrest's ministry, especially its developmental programs. As circulation grew with the 1890s gold rush, Harper and Hackett invested in modern printing and distribution technology, thus outgunning a rival daily, *The Morning Herald* (1896–1909), and consolidating *The*

Old newspaper seller 'Blind Kate' and her dog, 1920. Courtesy West Australian *(HIST6023)*

West Australian's position as Western Australia's premier journal of record.

Hackett became sole proprietor in 1912 and died in 1916. His estate, managed by Sir Alfred Langler, weathered some periods of industrial disruption until *The West Australian* and *The Western Mail* were purchased by West Australian Newspapers Ltd in 1926. 'Conservative in style, serious in manner, responsible in outlook', in Paul Hasluck's words, *The West Australian* maintained the Hackett tradition until after the Second World War. In 1933, new custom-built premises, Newspaper House in St Georges Terrace, were occupied and a weekly aimed at radio listeners, *The Broadcaster*, was launched. In 1935 Western Australian Newspapers acquired the evening daily *The Daily News.*

Modernisation gradually followed the war. In 1947 *The West Australian* became a tabloid, replacing advertisements with news on the front page in 1949. A short-lived women's magazine, *Milady* (1948–51), reflected changing tastes. From 1951 to 1969 control rested largely with a charismatic, if erratic, managing editor, James Macartney, noted for his coverage of the Monte Bello atomic tests and promotion of the North-West. *The Broadcaster* ceased publication, *The Western Mail* was transformed into *The Countryman*, and a commercial television station TVW7 was acquired; but in 1969 the company was taken over by the Herald and Weekly Times Pty Ltd and media regulations compelled the sale of TVW7 in 1970. Not uncritically, *The West Australian* supported the Liberal Party, free enterprise, and ambitious mineral development, but fell foul of the mining magnate Lang Hancock, who in 1973 promoted a competitor, *The Independent Sun*; but the *Sun* set after a few weeks.

In 1980 another entrepreneur, Robert Holmes à Court, financed a new rival, *The Western Mail,* and in 1987 Holmes à Court's Bell Group acquired the holdings of West Australian Newspapers, whose headquarters shifted to the Forrest Centre. *The Daily News* was sold and ceased publication in 1990. Bell Group was sold on to Alan Bond in 1988, and as Bond fell into financial problems, effective control passed to senior management and journalists and *The West Australian*'s political line became less predictable. In 1992 ownership passed to a public company whose directors were prominent Perth businessmen. With a populist readiness to expose the shortcomings of public figures and a strong advertising base, *The West Australian* survived into the twenty-first century as one of the few independently owned Australian major newspapers. **Geoffrey Bolton**

See also: *Daily News*; 'Gribble affair'; *Independent*; Journalism; Newspapers, colonial; Newspapers, country; *Western Mail*

West Australian Symphony Orchestra The West Australian Symphony Orchestra, originally known as the Perth Symphony Orchestra, enjoyed a year of life under the baton of Harold Betteridge in 1921, was re-formed in 1928 by Harold Newton and re-constituted in 1936, when the Australian Broadcasting Commission (ABC) introduced its Australia-wide Celebrity Concerts. For the first time, musicians in this orchestra were paid a wage not contingent on concert takings. As a result of this ABC policy, the orchestra experienced invaluable exposure to prestigious overseas conductors and soloists. The resident conductor from 1937–47 was Ernest J. Roberts, and Vaughan Hanly was the leader (later known as concertmaster) from 1939–76. By 1947 the orchestra had increased from seventeen to twenty-five permanent members. Youth concerts were introduced, with Henry Krips the resident conductor. Concert venues included His Majesty's Theatre, the Capitol Theatre and Winthrop Hall.

In 1950 a grant of £5,000 from the WA government and smaller amounts from Perth City Council and other municipal authorities

enabled orchestral numbers to increase to forty (in these early days the orchestra still had to rely on the addition of casual players who, although trained musicians, often had other professions or trades). The Perth Symphony Orchestra became known as the West Australian Symphony Orchestra (WASO), which made its debut on 6 January 1951 at a concert conducted by Rudolf Pekarek in the Somerville Auditorium. In addition to ABC studio commitments, during 1953 the orchestra gave forty public concerts catering for specific age groups, in metropolitan and country areas. John Farnsworth Hall was appointed resident conductor (1954–64). Repertoire was governed by orchestral size and broadcasting obligations and centred around music from the Classical and Romantic periods, with the occasional foray into the twentieth century.

Audience numbers fell when, due to the sale of the Capitol Theatre in 1966, concerts given by WASO's fifty permanent members were held in Winthrop Hall. However, the Perth Concert Hall, completed in 1973, attracted capacity houses. The Adelaide Symphony Orchestra joined WASO for the opening concert, presided over by chief conductor Tibor Paul. His untimely death later that year gave rise to the appointment of David Measham, whose Prom Concerts, given in the Perth Entertainment Centre, attracted huge audiences (19,000 patrons over three nights in 1980). The extension of repertoire into more popular styles caused a period of instability within the orchestra, but later became accepted as an essential part of its work. George Ermolenko Snr was concertmaster for a brief time in the late 1970s; Robert Cooper was appointed to this position in 1981. In 1983 the orchestra of sixty-five permanent members undertook its first overseas trip, to Singapore.

As early as 1979, a national committee headed by Alex Dix recommended that a new body known as Music Australia be created to take over concert and orchestral management from the ABC, with the administration of the symphony orchestras to take place at a local level. Although these proposals were rejected (1982), in 1985 another committee chaired by Ken Tribe recommended all ABC Symphony Orchestras should divest to local ownership. Using the Tribe Report guidelines, the national scene was localised by a committee chaired by Robert Vickery. Federal funding was channelled through a body called Symphony Australia.

Significant changes resulted from these inquiries. WASO amalgamated with the WA Arts Orchestra in 1989, and expanded its role to include playing for the local opera and ballet companies. The formation from WASO members of the Education Chamber Orchestra (ECHO) in 1995 enabled classical music to be heard in remote areas of the state. Jorge Mester, Vernon Handley and Vladimir Verbitsky were the chief conductors during this period, Ashley Arbuckle the concertmaster. WASO toured to Melbourne and Sydney in 1997.

The most dramatic organisational change came in 1998. The orchestra divested from the ABC and became a corporate body with its own Board of Management. Although funding still came from the federal and state governments, program enhancement relied increasingly on corporate sponsorship. In the twenty-first century, this enlarged body of eighty-three musicians—with concertmasters Daniel Kossov (2002–04) and John Harding (2005–)—produces world-class performances from a comprehensive repertoire. Matthias Bamert was appointed resident conductor in 2003 and remained in that position until the orchestra's tour of China in 2006, which was timed to coincide with the first Western Australian shipment of liquefied natural gas to that country. **Marcia Harrison**

See also: Australian Broadcasting Corporation; Music; Orchestras, amateur
Further reading: M. Harrison, *West Australian Symphony Orchestra: celebrating 75 years* (2003)

Westerly has long been Western Australia's flagship literary and cultural magazine. Although its contributors and its subject matter have never been exclusively Western Australian, the magazine has been edited from The University of Western Australia (UWA) since its foundation in 1956. *Westerly* now covers literature and culture throughout the world but it maintains a special emphasis on Australia, especially Western Australia, and Asia. Its contents include poetry, fiction, essays and book reviews. The current editors, Delys Bird and Dennis Haskell, aim for scholarly but readable work, and seek a variety in the contents of each issue.

Westerly began through the efforts and ideals of students in the Arts Faculty at UWA. *Westerly*'s first issue, edited by R. W. Smith, included two articles on Asia, in a period in which Australia's relations with this part of the world received scant attention. Later editors have included J. M. S. O'Brien, Peter Cowan and Bruce Bennett. *Westerly* was a quarterly review supported by federal government funding, but in 2000 it became an annual publication. It now receives support from the Westerly Centre at UWA and from ArtsWA, and has a strong reputation internationally, being listed in all the world's major cultural bibliographies and indexes. Published from the edge of a continent at the bottom of the inhabited world, *Westerly* has always sought to provide a Western Australian-based voice on cultural issues together with lively creative writing. **Dennis Haskell**

See also: Fiction; Journals and magazines; Literary criticism

Western Australian Club The Western Australian Club was founded in Perth in 1893. Originally called the Exchange Club, it changed its name in 1897. In that year too, it moved from its original location at Samson House to 146 St Georges Terrace next door. In 1970 it moved to purpose-built premises

at 18 The Esplanade and in 1995 to 101–103 St Georges Terrace, where it remains today. The present premises were built in 1887 for the AMP Society, then the largest life assurance company in the British Empire, and substantially remodelled in both 1927 and 1939 when used as banking chambers.

The Club has always drawn its membership from among influential Western Australians. Its original signatories included the state's first premier Sir John Forrest and his brother Alexander. Other prominent members included Sir George Shenton, Donald Chipper, J. B. Hardwick, A. B. Bunning, Sir Newton Moore, Sir E. H. Wittenoom, Sir Ross McLarty, Sir William Loton and Sir Charles Court, premier from 1974 till 1982. Its membership has tended to be dominated by prominent businessmen, politicians and senior public servants. In recent times the Club attempted to become more progressive in an effort to shed the image of an 'old boys' club' and to attract more members. In 1995 it was the first club in WA to admit women as full members with voting rights, appointing its first female president, Susan Robertson, in 2003. **Shreemen Prabhakaran**

See also: Class; Karrakatta Club, Weld Club
Further reading: C. de Mori, *A club for all seasons: a history of the Western Australian Club (Inc)* (1990)

Western Australian Institute of Sport The Western Australian Institute of Sport (WAIS) was an initiative of the state government, which adopted a recommendation from the Bloomfield Report in 1983 to set up a state institute of sport. The first state Institute of Sport was established in South Australia; this was followed closely by WAIS. A board of management was appointed in late 1983 under the chairmanship of Dr Bruce Elliott of The University of Western Australia (UWA), and WAIS commenced operations in June 1984, when Wally Foreman was appointed director.

While WAIS is a state government instrumentality and is funded by the government, it has a significant degree of autonomy to allow it to fulfil its mission, to provide opportunities for talented WA athletes to pursue excellence in sport in their home environment. It supports athletes through the provision of coaching, scientific expertise, access to appropriate facilities and administrative support.

WAIS was originally based in the Department of Human Movement at UWA and was initially a granting body. However, it quickly evolved into a service-based organisation through the employment of coaches, scientists, strength and conditioning specialists and administrative staff. Its first full-time coaches, Gerry Stachewicz (swimming) and Liz Chetkovich (gymnastics), were appointed in 1988.

In 1987, WAIS relocated to Challenge Stadium in Mount Claremont where it had a small administrative base. In 1996 its state-of-the-art administrative and science block was opened at the same location. The three-storey facility provides accommodation for WAIS coaching, scientific and administrative staff and houses sports-science laboratories and a strength and conditioning centre.

The Sydney Olympics provided a great boost to the WAIS. Between 1984 and 2000, WAIS's representation on the Australian Olympic team improved from twenty-one athletes in six sports to fifty-one athletes in twenty sports. By 2000 WAIS's budget had increased from $300,000 in 1984 to more than $5 million; and its staff had increased from 1.5 equivalent full time staff to 60 people, including more than 30 coaches.

WAIS supports athletes through individual scholarships and squad programs. Athletes are selected for both programs in accordance with standards determined by WAIS staff, in consultation with the relevant state and national officials in each sport. While WAIS's primary role is to assist local athletes, interstate athletes can be supported after they have met a residential qualification or if they have been relocated as part of the national program in a particular sport.

WAIS's emphasis is on, but is not restricted to, Olympic sports. Athletes have been supported in athletics, badminton, baseball, basketball, boxing, canoeing, cycling, diving, gymnastics, golf, hockey, netball, rowing, sailing, swimming, tae kwon do, tennis, volleyball and water polo. A program is also conducted for athletes with disabilities.

In addition to its elite development role, WAIS conducts scientific research, assists state associations with coach development and manages the state government's Western Australian Hall of Champions. **Wally Foreman**

See also: Athletics; Basketball; Cycling, sport; Golf; Gymnastics; Hall of Champions; Hockey; Rowing; Sport, disabled people; Swimming; Tennis; Water polo; Western Australian Olympic medallists (list)
Further reading: J. Bloomfield, *Report of the Sport Development Working Party* (1983)

Western Australian Museum The Western Australian Museum and Art Gallery was established in 1891 under the direction of Bernard Woodward, and inherited the collections of the Swan River Mechanics Institute. Woodward implemented an active field collecting and building program, but in 1913 the Museum and Art Gallery's administration were amalgamated with the Public Library under J. S. Battye's control. Woodward resigned, and a long period of stagnation followed. Ludwig Glauert, initially employed to supervise excavations of fossils at Mammoth Cave, effectively became director, but there was no money until the late 1930s when a Carnegie Grant enabled him to travel to America. New displays were developed and an adult education program was established on his return.

David Ride succeeded Glauert in 1957 and, with Sir Thomas Meagher as Chairman of the Board, the museum gained an

independent board and expanded rapidly. The museum assisted regional museums and established branches in Fremantle (historical displays at the Old Women's Asylum), Albany (at the Old Residency), Geraldton (maritime archaeological displays relating to the *Batavia*) and Kalgoorlie (mining). It accepted legal responsibility for Aboriginal sites and historic shipwrecks, and it built up expertise in maritime archaeology and associated conservation. Its biologists were equally active in faunal surveys. In the 1970s the new Francis Street building allowed consolidation of displays, collections and research.

From 1975, under John Bannister, the museum established new display facilities at Kalgoorlie and in the Maritime Museum at Fremantle, but after the Noonkanbah episode, when it opposed oil drilling, the museum had less political support. In 1988 it was incorporated within the Department of the Arts.

Under Director Andrew Reeves (1993–97), further consolidation and extended display programs were implemented, and new buildings commenced for the Maritime Museum at Fremantle (opened 2002) and Geraldton (opened 2001). Following incorporation into the Department of Culture and the Arts in 1997, Reeves' successor, Gary Morgan, initiated an internal reorganisation that brought various curatorial departments closer together.

In 2005 the museum moved to new storage and administrative facilities at Welshpool. It employs 220 staff, and attracts around 900,000 visitors per annum, of which nearly half go to Fremantle facilities. There are eight display venues, school and holiday programs, and a publications program. Dawn Casey, founding director of the National Museum in Canberra, was director 2005–08. **Ian Crawford**

See also: Art Gallery of WA; Caves; Collections, fauna; Collections, plant; Fremantle; Geraldton; Kalgoorlie-Boulder; Noonkanbah dispute; Shipwrecks

Western Mail Launched in 1885, the weekly *Western Mail* and, in 1897, its Christmas annual were the brainchild of Charles Harper, who shared ownership of *The West Australian* and also the *Western Mail* with John Winthrop Hackett. The weekly was intended to cater primarily for country dwellers whose access to news and information was limited by immature transport and communication systems. The paper embodied Harper's vision that the West's development was contingent upon primary production. Its editors were careful, however, not to alienate city readers and also perceived an audience in other parts of Australia and abroad.

The *Western Mail* promised subscribers original articles, notes, and essays about farm and station life, together with sporting items, short tales and serialised stories. It solicited written and visual contributions from its widely dispersed clientele and provided a forum for the exchange of information and advice. It also promised to be politically impartial, committed only to seeking the truth beneath the 'heat and vitality' of its community's struggles.

Community service was an important objective, whether it took the form of Mutual Help pages, Aunt Mary's Children's Corner, Virgilia's women's column, or the paper's considerable support for charitable organisations such as Silver Chain and Sister Kate's cottage homes. Robert Robertson, editor of the *Western Mail* from 1897 to 1912, and early feminist Muriel Chase, who held the position of Aunt Mary for twenty-five years, were instrumental in establishing the Silver Chain in 1905. The paper's support for Sister Kate's homes for children in need began with a chance meeting between Muriel Chase and Kate Clutterbuck on a ship bound for Australia from England. The paper's social and charitable efforts made good commercial sense, for they widened the paper's influence and encouraged subscriptions.

The *Western Mail* Christmas annual was a substantial and high quality magazine that

celebrated the development of the state and the newspaper by publishing articles, visuals, stories and advertisements that applauded readers for their hard work and upheld the values of conquest, immigration and settlement that would turn a wilderness into civil society. Many notable artists and photographers contributed to its pages, including Ben Strange, May Gibbs, Ida S. Rentoul, Percival Stanway-Tapp, Fred Flood, Fred Ford, Doug Burton, Len Cutten, Clive Gordon, James Linton, Amy Heap, Harald Vike and Axel Poignant.

The annual increasingly published popular fiction and verse by Australian writers, though in its early years it had relied mostly on syndicated overseas material. Sometimes authors are difficult to identify due to the common practice of using a pseudonym, but writers with established reputations who published in the *Western Mail* include Paul Hasluck, Mary Durack, Henrietta Drake-Brockman, John K. Ewers, Arthur Upfield, Will Lawson, Peter Hopegood, Alec Choate and Mollie Skinner.

Changing social conditions after the Second World War rendered both the weekly and the annual less relevant. The weekly's incorporation into the *Countryman* in 1955, a paper wholly designed for rural interests, was also indicative of a trend towards specialisation in publishing. The fate of the annual was, of course, attendant upon that of the weekly, but it too had outlived its usefulness. Designed to both annotate and influence the history of a region, it was an instrument of an establishing society that had consolidated its economic, social, and political position and secured its future by the mid 1950s. **Ffion Murphy**

See also: Art, modern; Essays; Fiction; Journalism; Photography; Silver Chain; Sister Kate's; *West Australian*

Further reading: F. Murphy and R. Nile (eds), *The gate of dreams: the Western mail annuals, 1897–1955* (1990); C. T. Stannage, *Embellishing the landscape: the images of Amy Heap and Fred Flood, 1920–1940* (1990)

Westralian Worker The first copy of the *Westralian Worker* (*WW*) appeared in Kalgoorlie in September 1900. The masthead on early issues proclaimed it would be 'A Journal devoted to the interests of Trade Unionism, Co-operation and Labour in Politics. Owned and controlled by organised labour'. The publisher, the People's Printing and Publishing Company, was a conglomerate of trade unions from the Eastern Goldfields. Unity among workers was an early and repeated theme and the elevation of the weekly broadsheet into a labour daily a later ambition. Publication shifted to Perth in 1912 when the *WW* became a statewide rather than a goldfields paper.

The paper's golden age began in 1917 when John Curtin, a young militant socialist from Victoria, was appointed editor. He gave the previously moderate paper, by now 'the official organ of the WA Labor Party', an emphatic voice against conscription, imperialism, capitalism, war and other issues. His early editorial voice often used strong Marxist rhetoric: 'the bowed backs of Labor will feel the stinging lash of unemployment…'

The readers liked what they read: circulation went up by 30 per cent in Curtin's first six weeks as editor. The tone of the *WW* softened after 1922 as Curtin moved closer to the practice of conventional politics. During Curtin's time the look of the paper improved. It featured union and political news, editorials, sport, and reviews of shows and silent films. The editor also built up a reputation as a race tipster.

In the 1940s the *WW* ran stories on the Second World War and associated union matters, often taken from overseas sources. Between 1919 and 1951 the Australian Workers' Union was a major source of funds for the paper, but the powerful union rarely seemed to interfere with the contents. The paper closed in 1951, blaming shortage of newsprint and 'insuperable difficulties'. These included falling circulation and a collapse in advertising, particularly by major retailers. The *WW* was revived as a biennial publication in 2004 but

was now labelled the 'Official Organ of the AWU'. It lasted just one issue. **Ron Davidson**

See also: Australian Labor Party; Journalism; Labour culture; Newspapers, goldfields
Further reading: D. Black (ed.), *In his own words: John Curtin's speeches and writings* (1995); D. Day, *John Curtin: a life* (1999)

Wetlands Western Australia hosts a diverse range of wetlands in climatic regions spanning the tropical humid Kimberley, to arid regions of the Great Sandy Desert, to the cooler, more temperate regions around Walpole. Wetlands in WA reside in a wide variety of landscape and geological settings, from the rugged rocky Pilbara, to dune fields of the inland deserts, to coastal plains. They encompass rivers and creeks, lakes, swamps, floodplains, and peat mounds, among many others, and are maintained by diverse styles of water delivery, from ponding of water or rising of watertables from rainwater, to inflow from surrounding surface drainage, to groundwater upwelling. Wetlands on coastal plains and near to the coast in WA tend to be young, generally less than 10,000 years old, formed as a result of the watertable rising or increased rainfall following the rise in sea level at the end of the last ice age. Wetlands further inland, situated in more ancient landscapes, such as the extensive meandering salt lake and valley systems on the subdued Yilgarn Plateau, have antiquity, extending back tens of millions of years. In their natural state, wetlands are important ecologically, as nodes for primary production, recycling and biodiversity, and providing food and habitat for biota in the immediate as well as distant regions. Their role as summer refuges and breeding and feeding grounds for local and migratory waterbirds is well known. Wetlands also accrete various sediments, such as white sand, diatomite, lime mud and peat that, unfortunately, render them useful to extractive mining practices.

As locations of water and food, wetlands have played a significant role in the history of the Indigenous peoples of WA. Traditional owners continue to have a close affinity with wetlands, or 'living waters', and have developed a practical nomenclature for the various types that they encounter in the different climatic and landscape regions of the state. In contrast, European history with wetlands in WA, and particularly the Swan Coastal Plain, has not been ecologically or environmentally positive. Many of the wetland systems in WA are globally unique, consequently being afforded international, national or statewide conservation status. However, from the onset of settlement on the foreshore of the Swan River, Europeans systematically cleared and filled the local wetlands to make way for housing, roads or market gardens, not recognising their uniqueness. Thus, since 1829 wetlands in the way of expanding settlements or other human progress have had their margins cleared for market gardens (Market Garden Swamps at Coogee and Lake Gwelup); have been drained (Lake Pinjar) or alternatively used as waste water or stormwater sumps (Herdsman Lake); have been incorporated into suburban parks or golf courses (Mary Carroll Park); have been wholly cleared and filled in for urban and industrial development (Balcatta swamps and Secret Harbour wetlands); have suffered dewatering as a result of groundwater abstraction (Lexia wetlands at Ellenbrook); have been contaminated by nutrients such that many are now alienated, or infested with midges (Lake Forrestdale and Lake Joondalup); or have been mined for sand, peat and diatomite (Melaleuca Park wetlands). Clearing and infilling of wetlands began with the first colonists in the swamps between Hyde Park and the Swan River estuary, and has continued to the present with the current construction of the southern extension to the metropolitan rail line through swamps on the western shore of Lake Walyungup.

There has, however, been some progress in the past two decades in recognising the

significance of wetlands in WA. A turning point in the awareness of their importance at state government and public level came with the Farrington Road controversy in 1984, a situation where a road placed through a wetland resulted in vocal public outcry. To avoid similar controversies, the state government placed wetlands on the conservation agenda, and began a systematic study of them to determine their status, function and management requirements, resulting in a comprehensive inventory and active conservation and management. Examples of wetlands that have recently been added to the conservation estate include Paganoni Swamp (Karnup), Becher Point wetlands (Port Kennedy), and the Brixton St wetlands (Kenwick). **Christine Semeniuk and Vic Semeniuk**

See also: Conservation and environmentalism; Geological history

Further reading: S. A. Balla, *Wetlands of the Swan Coastal Plain. Volume 1. Their nature and management* (1994); J. Lane and R. Lynch, 'Western Australia', in Australian Nature Conservation Agency, *A Directory of important Wetlands in Australia* (1996); C. A. Semeniuk and V. Semeniuk, 'A geomorphic approach to global classification for inland wetlands', *Vegetatio*, 118, 1–2 (1995); C. A. Semeniuk and V. Semeniuk, 'Human impacts on globally to regionally significant geoheritage features of the Swan Coastal Plain and adjoining coastal zone, southwestern Australia', in V. Gostin (ed.), *The Australian Environment. Australian Journal of Earth Sciences*, special issue 21 (2001)

Whaling in Britain, Europe and North America was a lucrative industry by the late 1700s. British, French and American pelagic whalers hunted for sperm whales in the Indian Ocean on ships known as whalers before the British settled Albany in 1826. Their vessels could stay at sea between two and four years, and served as floating factories where whales were cut up, boiled down and

the oil produced was stored. The first whalers known to visit Western Australia were the *Elligood* and *Kingston*, which arrived in King George Sound in 1800.

Whales were hunted off the Western Australian coast from the Dampier Archipelago to Esperance between 1800 and 1978. Three main species were sought: the sperm whale, which produced the oil that lit the streets of Europe and whose teeth made piano keys; and southern right and humpback whales, which produced oil, provided meat for human consumption and whose bones were used for corsets and numerous other products. Australian whalers, like others, moved from species to species as each breed of whales became 'economically extinct', that is, there were too few left of a species to make the cost of hunting them worthwhile. Whaling was Australia's major producer of export merchandise before the establishment of the wheat industry and the gold rush. Sydney Harbour and Twofold Bay in the New South Wales colony were the largest exporters of whale produce by 1840.

Four years prior to the export boom, the first shore-based whaling station was established in WA at Doubtful Bay. Shore-based whalers hunted close to shore and processed the whales on land. The financial success of this method probably influenced the establishment of a whaling industry off Fremantle in 1837. However, shore-based companies struggled from 1839 to 1844, as foreign whalers hunted in the Southern Ocean, depleting stocks before the mammals reached the vicinity of shore-based stations. The situation improved when the foreign whalers found new whaling grounds in the north-west Pacific Ocean. Whaling fortunes continued to rise and fall until 1888 when the last pelagic whaler left Albany.

From the early 1900s to 1963 whaling in Western Australia was an unstable business. Two world wars, the economic extinction of species and the discovery of substitutes for whale products all contributed to the industry's volatility. The Norwegians reintroduced whaling

to Western Australia at Albany in 1912. They started a shore-based operation at Frenchman Bay and began hunting southern right and humpback whales. The station was closed in 1916, as whale populations declined.

The Norwegians also ran a successful whaling business at Point Cloates. In 1916 this operation produced 9,597 barrels of oil from humpback whales migrating north to the breeding grounds in late winter and early spring. British whalers, who were harvesting to supply meat and fats during the Great War, depleted the number of animals available for the Point Cloates whalers, and 1916 saw its closure as well. The Norwegians again invested in Western Australian whaling between 1925 and 1929 at Point Cloates, and off Carnarvon from 1936, but the Great Depression and Second World War interrupted whaling.

A global shortage of fats after the Second World War saw whaling resume off Albany in 1948 and Carnarvon in 1949. In 1952 the Cheynes Beach Whaling Company was established at Misery Beach, Albany, to harvest humpbacks. The company diversified to sperm whales in 1955. The company harvested seven sperm whales in the first year, but this figure grew to 654 by 1963. The company's diversification enabled the whaling station to remain viable when humpback whaling collapsed in 1963 with only nineteen animals caught. By 1964 the humpback whale's protection by the International Whaling Commission, established in 1949, was implemented.

In 1956 the Point Cloates and Carnarvon whaling stations amalgamated into the Nor'West Whaling Company at Babbage Island. When humpback whaling folded, the company attempted to start a sperm whaling operation near Robb's Jetty, Fremantle. The plan was squashed by locals who did not want large sharks attracted to their beaches, or the water and air pollution associated with whaling. Cheynes Beach Whaling Company, Australia's last whaling station, ceased whaling in November 1978,

having harvested 14,824 sperm whales in 23 years. The station's closure was the result of numerous problems. The company was in economic decline due to the loss of overseas markets and the ever-increasing maintenance costs for its three chasers and station. The whaling industry had proven to be unsustainable, with numerous species becoming endangered, and by the 1970s the sperm whale populations were in decline, with fewer large bulls to harvest. The International Whaling Commission introduced species-specific quotas in 1972, and continued to reduce quotas until issuing a zero quota for Australia in 1978 for the 1979 season. This meant that the Albany company would not be allocated any sperm whales to hunt in the immediate future. Japan and the USSR continued hunting for minke whales off Western Australia's coast until 1986, when a global moratorium on all commercial whaling was introduced.

In 1977, in response to increasing public pressure from overseas and at home for Australia to cease whaling, the federal government set up the 'Frost Inquiry into Whales and Whaling in Australia'. Anti-whaling support, driven by educational and media campaigns by environmentalists, had grown rapidly since the United Nations' call for a moratorium on commercial whaling in 1972. With Australia's last whaling station closed in the West, the federal government introduced the *Whale Protection Act 1980*. By 1990, whale watching had become a major eco-tourist industry in Western Australia. **Heather Jaeckel**

See also: Albany; Environment; Fishing, commercial; Tourism

Further reading: G. C. Bolton, *Spoils and spoilers: Australians make their environment, 1788–1980* (1981); M. Colwell, *Whaling around Australia* (1970); S. Foy, *The world of whales: the story of whales and whaling at Albany, Western Australia* (1982); J. N. Tonnessen and A. O. Johnsen, *The history of modern whaling* (1982)

Wheat has a significant place in Western Australian history as the major export crop that provided the incentive for the development of farming land. Commercial agriculture was brought to Australia by Europeans, but Western Australian soils were too infertile to bring European-cultivated crops to maturity without at least phosphorus fertiliser, and the sand-plain soils were deficient in almost all nutrients. Once agricultural science solved these problems the wheat industry made a major contribution to the state's economy throughout the twentieth century. As late as 1973–74 the wheat crop was worth more than two-thirds the ex-mine value of all mineral exports. Since that time, although the value of the wheat crop has increased substantially, its economic importance has diminished relative to the greatly expanded mining sector.

The years 1830 to 1890 were a period of slow growth, and by 1890 the area of wheat had only reached 14,000 hectares at a yield of less than one tonne per hectare. Although pastoral activities were widespread, agriculture was limited to the higher rainfall areas from Perth to the South-West and the Victoria district around Geraldton. During this period colonial farmers were using wheat cultivars from England, which were not well suited to

Busy morning weighing wheat, Perenjori Station, c. 1904, photographed by W. H. Kretchmar. Courtesy P. and E. Ridley

the climate. The problem presented by the infertile Western Australian soils was met initially by the use of animal manure on small areas and by cropping on the few areas of fertile soil such as the alluvial Greenough Flats.

The gold rushes of the 1890s began a period of rapid population growth that heralded an era of expansion of agriculture. The first Australian varieties of wheat bred by William Farrer in New South Wales became available in 1900, and superphosphate fertiliser was first manufactured in WA in 1910. Between 1890 and 1930 much of the area subsequently known as the Wheatbelt was settled; although the only areas cleared for cropping were the finer textured soils, which occupied less than fifty per cent of the landscape overall. The area sown to wheat increased rapidly to 240,000 hectares by 1910. Expansion accelerated after the First World War and reached a peak in 1930 with a large planting of 1.6 million hectares in an excellent season with a yield of nearly one tonne per hectare.

The Depression years, 1930–36, hit wheat farming at least as hard as any other sector of the community, with many farmers walking off or being forced off their farms. As a result, the 1930 wheat crop was not equalled for more than twenty years. Farming technology during this period saw the widespread introduction of phosphatic fertilisers, long cultivated fallow periods before cropping to reduce weeds and conserve moisture, and by the end of the period the use of tractors was universal. Bencubbin wheat, bred in WA, became the most widely grown wheat in Australia. The establishment of Co-operative Bulk Handling Ltd in April 1933, a farmer cooperative that handled all grains cheaply and efficiently in bulk, was an innovation that has served the grain industry well. In the 1960s there were over three hundred grain receival points, although with increased efficiency many silos have since been dismantled and others upgraded, so that in 2005 there were just under two hundred receival points.

Between 1951 and 1970 the cleared area of the Wheatbelt doubled. Previously uncleared sand-plain soils on existing farms were cleared and large tracts of new land were made available for new farms on conditional purchase. Land was cleared at up to 400,000 hectares per year, but the number of farmers did not increase proportionally so that farms became larger. The area of wheat planted nearly trebled to 2.9 million hectares in 1969. Technological changes included the widespread use of trace elements (copper, zinc, manganese and molybdenum) and rotation of wheat crops on sand plain with clover pastures, which improved soil fertility and increased the sheep component of these wheat and sheep farms. This period of expansion ended in 1969 when world wheat demand suffered a severe contraction and coincided in WA with a severe drought.

From 1970 to 2004, great changes occurred in the wheat industry. The constant cost/price squeeze on broad-acre farming caused a continued population drift to the city with resultant further increase in farm size. There was considerable improvement in cropping technology as a result of a major thrust in agronomic research in WA commencing in the 1970s. Because cropping with wheat gave better economic returns than grazing, the proportion of farmland under crop increased markedly between 1970 and 1985. Improvements in technology included better use of machinery, chemical weed control and reduced cultivation, all of which enabled earlier planting that gave an effectively longer growing season. Greater fertiliser efficiency and better varieties also contributed. Average wheat yield increased from its long-term average of one tonne per hectare between 1950 and 1980 to a mean of 1.55 tonnes per hectare in the period 1991–95. In 2001–02 the state's wheat crop produced 7.76 million tonnes from 4.35 million hectares at a yield of 1.8 tonnes per hectare, and the 2003–04 harvest produced a record 10.2 million tonnes delivered for sale. Since the 1950s WA has produced just over 25 per cent of Australia's wheat. **Norman Halse**

See also: Agriculture; Depression; Economy; Marginal areas; Salinity; Wheatbelt; Wheatbelt, heritage

Further reading: W. K. Anderson and J. Garlinge (eds), *The Wheat Book: Principles and Practice* (c. 2000); G. H. Burvill (ed.), *Agriculture in Western Australia: 150 years of development and achievement, 1829–1979* (1979); Australian Bureau of Statistics, *Western Australian year book* (1967–1998)

Wheatbelt The Western Australian Wheatbelt can be viewed as a geographic, economic, political, historic, social and even statistical unit. Historically, it was loosely defined as that part of the state where wheat production was a significant economic activity. This was mainly contained between the 305 and 505 millimetre (12 and 20 inch) rainfall lines in the south-western part of the state. In the *Regional Development Commission Act* (1993), the Wheatbelt was defined by the grouping of local government bodies as one of the nine regions of Western Australia, and a year later the Wheatbelt Development Commission took its current form. It described the Wheatbelt as an area of about 155,000 square kilometres over some 1,000 kilometres beyond Geraldton in the north and the Esperance area in the south-east. Over 80 kilometres wide in the north, it broadens to some 250 kilometres just south of Southern Cross, and narrows again in the south. The main service centres are Northam, Narrogin, Merredin and Moora, although these towns, in 2004, contain only 16,000 of the region's population of about 72,000. Reflective of its significance as Western Australia's largest contributor of agricultural products such as grains, pulses, wool, livestock and some mining outputs, the contemporary structure of the Western Australian Cabinet includes the designation of a 'Wheatbelt' portfolio.

In the first thirty years of the twentieth century, when the Australian wheat industry as a whole grew rapidly, WA surpassed all other states in the rate of agricultural expansion, rising from an insignificant position as a net wheat importer to become one of the main wheat producing and exporting states. Its importance as an industry in terms of export earnings, employment capacity and linkage effects became more marked when gold production from 1903 began a sharp and continuous decline. However, Western Australia's rise to prominence as a wheat-growing state tended to be quite different from that of the other states, as wheat production was under the wing of the state. The most unusual element was the degree and nature of government intervention, mainly in the form of cheap land, provision of railways and credit. This pattern of development left many new settlers, particularly in poor seasons induced by drought and international downturns, in a vulnerable position. The special settlement schemes of the 1920s, such as soldier settlement and Empire settlement projects, attracted much attention but tended to be limited in success. Despite the poor quality of the soil in most of the region, the generally flat land with a Mediterranean-type climate of hot, dry summers and cool, wet winters made it well-suited to the extensive use of farm machinery. When combined with the availability of chemical fertilisers, it spurred governments, at least until the 1970s, to support the expansion of the Wheatbelt.

With the rise of political parties after Federation, all parties supported agricultural development, particularly the wheat industry, with premiers Newton Moore (1906–10) and James Mitchell (1919–24 and 1930–33) closely associated with the policies. However, the means of government assistance to agriculture became an enormously important and controversial political issue between the political parties. In the Legislative Assembly elections of 1914, a newly formed Country Party, contending that governments were not giving settlers sufficient support once on the land, contested fifteen seats and won eight of them, against the Liberal Party's sixteen and Labor's twenty-five. Subsequently, the Country Party, often governing in coalition with the Liberal Party, has held an influential position in government, with the party frequently being dominated by Wheatbelt farmers. At the 2001 election, the National Party, which had the Country Party as its forerunner, was limited in its representation to the agricultural region, which has a boundary similar to that of the Wheatbelt. Historically, though, the rural weighting of the electorates in WA has helped maintain the influence of the Wheatbelt in the politics of the state.

Despite the past and current importance of the Wheatbelt as a region of major primary production, particularly the wheat and wool industries, the threat of salinity has long loomed over the region. Many of the early warnings were ignored as the 'development ethos' of the state prevailed in government and farming circles. A Select Committee of the Legislative Council in 1988 documented the scale of the salinity crisis, but it was more than a decade before governmental action through a State Salinity Council produced a broad salinity action plan. At this time a National Land and Water Resources Audit (2001), which included biodiversity and infrastructure issues, estimated that the proportion of agricultural land in WA that could be seriously salt affected might exceed 30 per cent within the next fifty to one hundred years. A Salinity Task Force in 2001 sought a more targeted and cohesive response to the salinity threat in the Wheatbelt. Also included were concerns over biodiversity and better protection of public assets. Disputes over shared funding arrangements under the National Action Plan for Salinity and Water Quality (2000) caused delays. Indeed, a major challenge to contain salinity remains, given its multiplier impact upon Western Australia's economy. The contemporary Wheatbelt Development Commission reports indicate

the implementation of a regional strategy, planning for greater economic diversification, and giving attention to marketing, tourism and social infrastructure. **Harry C. J. Phillips**

See also: Agriculture; Country (National) Party; Economy; Environment; Land settlement schemes; Marginal areas; Salinity; Wheat; Wheatbelt, heritage

Further reading: Q. Beresford, H. Bekle, H. Phillips and J. Mulcock, *The salinity crisis: landscapes, communities and politics* (2004); S. Glynn, *Government policy and agricultural development: a study of the role of government in the development of the Western Australian wheat belt, 1900–1930* (1975); Wheatbelt Development Commission, *Annual report* (2002–03)

Wheatbelt, heritage Settlement in the Wheatbelt began in earnest in the late 1890s and early 1900s, with the most rapid growth in 1905–13, when the population more than doubled from around 50,000 to over 100,000. The ideal of living 'the good life' on the land drew thousands of British migrants as well as those locally born, but life was hard. Land was cleared by hand and houses and sheds were rough structures using available material. Isolation and lack of services made settlers reliant on one another and fostered a strong community spirit.

Wheatbelt towns developed around railway sidings, with a general store and possibly a hotel. An agricultural hall and a school were early additions, while towns that became local administration centres (Narrogin, Merredin) had a Road Board office, banks, and substantial business premises, soon followed by a town hall in classical style.

As farms took over more of the bushland, groups of Aboriginal people congregated on the edges of the larger towns, where they were generally forced into reserves, without water or sanitation. Most of the young men took on farm work when it was available,

but, while families wanted their children educated, the local schools would not accept Aboriginal students. By the mid 1910s, most were being moved into settlements such as Carrolup and Moore River.

The 1920s were prosperous years and the Wheatbelt population in 1927 was around 150,000, being 41 per cent of the total population of the state. New or larger town halls, churches and expanded business premises were constructed. Entertainment included movies in the town hall, balls, dances and concerts, while sport of every type was played.

Many farmers who had taken up land in the 1920s were not sufficiently well established to survive the Depression of the 1930s, and walked away from their farms. The upturn in the economy in the late 1930s saw another building period with a spate of Art Deco-style town halls.

The 1950s and 1960s were a period of consolidation. Improved technology and machinery meant many farms were combined into larger holdings and less labour was required. Hastened by the drought of 1969, the population was reduced by 15,000 people during 1966–71. Three drought years in 1977–80, followed by five years of poor harvest, sent rural communities into severe financial constraint and further population decline. This was compounded by the continuing drift of young people toward the cities, with few prospects available for them locally. The population in the early twenty-first century is less than half of what it was in 1927, and is generally older. In the past decade or so there has been a focus on heritage to enhance the environment of Wheatbelt towns and attract tourism as a boost to land-based economies. Some towns (Bruce Rock, Kellerberrin) have offered free land and other incentives to attract new residents and businesses, with mixed results. A more recent trend is the 'sea change' philosophy, where families are opting out of the bustle and anonymity of the city for a quieter, community-oriented country life. **Irene Sauman**

See also: Art Deco; Depression; Migration; Moore River mission; Rabbit-proof fence; Railways; Water management; Wheat
Further reading: J. Gentilli (ed.), *Western landscapes* (1979); C. T. Stannage (ed.), *A new history of Western Australia* (1981)

Wholesaling Little research has been undertaken into the wholesale industry in Western Australia, although some historical information about individual companies is available. European settlers initially exchanged and bartered goods because of the limited market in the isolated Swan River colony. Early merchants established bartering arrangements and credit notes and attained success through ensuring that their business interests were wide and varied. One such business was that belonging to Lionel Samson, who brought a shipment of merchandise to sell when he arrived in the colony in 1829. Samson was granted a spirits licence in this same year and by 1835 had established a general grocer, merchant, wine and spirit wholesale business in Cliff Street, Fremantle, which later grew to include shipping, auctioneering and financial interests. Still operating in 2005, Lionel Samson & Son is the oldest and longest-running company in WA.

Wholesalers and importers dominated WA commerce in the nineteenth and early twentieth centuries, largely because of repeated failures to maintain a manufacturing industry that could sustain domestic consumption. In particular, family-owned businesses thrived in this period through their connections with shipping activities in and to the colony, as well as their ability to establish themselves as agents for large companies. In Fremantle, the Bateman brothers developed a fleet of vessels in association with their merchant business and secured significant trade links with both interstate and overseas firms, including acting as the local representative of the United States and Australasia Steamship Company. Some family businesses built large complexes incorporating warehouses, bulk stores and

offices in the main ports, supplied smaller, general retail stores and offered goods for sale through mail-order catalogues. Other companies at this time were operated by the Higham and Marmion families in Fremantle, George Shenton and Walter Padbury of Perth, and George Cheyne and his nephew Alexander Moir in Albany.

The dramatic expansion in population and demand for goods associated with the gold rushes of the 1880s and 1890s gave impetus to the growth of local industries and led to an increase in production and importation of manufactured goods. Concurrent to this was the granting of responsible government in 1890 and the availability of funds used to develop infrastructure like the railways network so as to encourage agricultural settlement. The wholesale industry in WA was impacted by this period in a number of ways. The boom resulted in the physical transformation of business premises such as the 1860s complex owned by W. D. Moore in Henry Street, Fremantle, which was unified (c. 1899) behind an ornamental two-storey building. In Murray Street, Perth, the substantial new buildings constructed for manufacturing chemist F. H. Faulding (c. 1910) typify warehouses of this time with their administration offices, stores, showroom and dispatch office.

The gold rushes also attracted a number of eastern states and European wholesale and import companies, including clothing firm Goode, Durrant and Murray, drapers G. R. Wills & Co, hardware merchants McLean Bros & Rigg (later taken over by builders R. & W. Vincent) and Geo. P. Harris Scarfe & Co. The latter highlights a particular development in the wholesale industry—the import and supply of machinery, tools and equipment to new agricultural and mining settlements in WA. Similarly, leading stock firms like England's Dalgety & Co established branches in WA which specialised in these products. One of the largest of these was Adelaide's Elder Smith & Co., which merged with George

Shenton's merchant business in 1903 and immediately extended its activities into the growing pastoral and agricultural areas of York, Northam and Beverley.

Wholesaling continued to progress until the Depression of the late 1920s and 1930s. The most notable aspect during this interwar period up to the end of the Second World War was the increasing popularity and viability of the motor vehicle. Agents like W. J. Winterbottom, who founded Winterbottom Motors in 1916 as a Dodge automobile franchise, imported chassis kits that were assembled locally.

Research into the history of the wholesale industry in the twentieth and into the twenty-first centuries is made difficult by the lack of clear distinction between the warehouse or bulk handling of goods, and the companies importing primary material for manufacturing purposes. Indeed, well-known firms such as Goode, Durrant and Murray were both wholesalers and producers of goods. Similarly, the phrase 'merchant' was used to refer to both importers and retailers.

Significant changes to retailing post–Second World War in turn impacted on the wholesale industry. This was especially the case in relation to mass production and individual packaging and branding as well as the emergence of a pre-packaged convenience-food industry. The 'super' grocery market of the 1950s and 1960s, which included Western Australia's Charlie Carters and Thomas Wardle's 'Tom the Cheap' stores, provided a wide variety of products at low prices in a 'cash and carry' system. This concept was also applied to product areas such as hardware in the form of the highly successful Bunnings stores.

The 1990s saw two major developments in the wholesale industry. One has been the availability of goods at wholesale prices through the convenience of online shopping sites such as eBay, and the second is the establishment of food, grocery and pharmaceutical stores which allow the everyday person to purchase goods in bulk

at the cost of wholesale. Examples of these in WA include European Foods Wholesalers in Northbridge and the FAL store in Canning Vale. **Kristy Bizzaca**

See also: Manufacturing; Retailing
Further reading: P. Firkins (ed.), *A History of commerce and industry in Western Australia* (1979)

Wiluna Established as the Wiluna District Road Board in 1909, the shire of Wiluna serviced mainly pastoral and mining interests, although by the 1980s its population was predominantly Aboriginal, concentrated in the Ngaanyatjarra lands centred on Warburton in the eastern portion of the shire. The annual election of one of Western Australia's largest local government authorities in 1985 marked the beginning of major changes for the local government. Thomas Newberry became the first Aborigine to win a seat on the Wiluna Shire Council, prompting a bitter reaction from the re-elected non-Aboriginal shire president Bill Green, who publicly criticised changes to the Western Australian *Local Government Act* in 1984 that had opened the door for all citizens to vote in local council elections, regardless of whether they were ratepayers or not. The law reforms had been a major factor in the number of Aboriginal nominations and increased voter participation in the 1985 local government elections across WA, especially in the shire of Wiluna. Newberry's success provoked debate over both the prospect of a future Aboriginal shire president and council's spending on road maintenance to Aboriginal communities. Aboriginal representation on the council further increased in 1986, but, before the electoral term ended, a government-appointed commissioner took over shire business because of a quorum problem resulting from the refusal of non-Aboriginal councillors to accept Aboriginal council members. By 1987 an Aboriginal majority

on the Wiluna Shire Council was reached and their political influence was a key factor in improving services and infrastructure to Aboriginal communities.

Funding and road maintenance continued to be major political issues for the shire, which led to a review of Council Procedures and Boundaries and petitions to the Minister for Local Government for a new shire. From 1 July 1993 the local government area was split into two jurisdictions, creating a new Shire of Ngaanyatjarraku and reconstituting the Shire of Wiluna with a much-reduced area. **Narelle Thorne**

See also: Local government
Further reading: C. Fletcher, 'Decision-making in the Australian federal system: remote Aboriginal communities and public policy in WA', PhD thesis, UWA (1990); P. R. Heydon, *Wiluna: edge of the desert* (1996)

Wine Although viticulture and winemaking have been practised since the arrival of the *Parmelia* in 1829, only in the last thirty years has Western Australia has made an impact on the world wine scene, with the emergence of Margaret River as a producer of world-class wine.

In the early days of the colony, vines were planted on Garden Island, at Hamilton Hill, at Kings Park and along the Swan, Helena and Canning rivers. Present-day producers Olive Farm (established 1830), Houghton (1836) and Sandalford (1840) were among the early pioneers. Small vineyards were cultivated in many parts of the colony during the nineteenth century: at Australind, Vasse, Toodyay, Glen Forest, Armadale, Bakers Hill, New Norcia and Katanning. From about 1880 onwards, larger, more commercial wineries were established: Glen Hardy, Darlington Vineyard, Mundaring Vineyard, Avondale and Duce's at Boyanup. By 1895 there were 240 hectares (producing 225,000 litres) under vine; however, the expansion in population,

due to the gold rushes, led to a dramatic surge in production to 837,000 litres by 1905. Most wines were fortified. The red grape varieties cultivated at the time included aramon, morastel (called burgundy), shiraz, cabernet sauvignon and purple morocco, while the white varieties were sweetwaters, pedro, riesling and muscat gordo blanco.

Most of the vineyards established in the first half of the twentieth century were small family concerns making fortified and table wines for personal and local consumption. Italian migrants planted vines in places such as Wanneroo, the Ferguson Valley, Donnybrook, Yallingup and Margaret River. More visible was the settlement of Yugoslav migrants following the First World War. With their experience of market gardening and viticulture on the Dalmatian Coast, the Slavs relished the opportunity to develop small-holdings in the Swan Valley. More than 80 per cent of production was fortified wine: not until the opening up of new viticultural areas to the south did table wines dominate.

During a study visit to The University of Western Australia in 1955, the distinguished American viticulturist Professor Harold Olmo wrote a report recommending Mount Barker and Frankland as premium viticultural areas. This led the Department of Agriculture to plant experimental vines on the Pearse property at Forest Hill, near Mount Barker, in 1965. It also influenced a research report (1965) by agronomist Dr John Gladstones, which recommended Margaret River as a region ideally suited to viticulture.

The Gladstones paper led to the development of viticulture in the Margaret River region with the first plantings at Vasse Felix in 1967. So determined and focused were those who established the first wineries that, by the early 1980s, the region had come to be regarded as one of Australia's finest. The Great Southern—incorporating the sub-regions of Mount Barker, Frankland River, Denmark, Porongurup and Albany—developed more slowly. There are now commercial vineyards

from Geraldton to Esperance and regions at Pemberton, Manjimup, Blackwood Valley, Geographe, the Perth Hills and Peel, as well as the original Swan Valley. Since 2000 the success of viticulture at Frankland River has driven the economic revival of the area. During the 1980s and 1990s, similar economic benefits had been seen in all parts of the state, where viticulture had grown in importance. In Margaret River, where the timber and dairy industries were in decline, the wine industry has fuelled a period of spectacular growth for the region. The success of its wines nationally and internationally has led to a flourishing wine tourism industry, with its demands for short-term accommodation, restaurants and other infrastructure. The wine industry has done more than transform the landscape of Margaret River. Wine tourism has also caught on in Western Australia's other regions, with the Swan Valley, Perth Hills and Denmark attracting the largest number of visitors.

In the past forty years, most of those establishing vineyards have either been enthusiastic professional people keen to take their love of wine one step further by setting up their own vineyard and winery, or farmers keen to diversify to improve the viability of their property. Tax investments have also played a role in shaping the industry. The outcome has been a plethora of tiny vineyards alongside larger, long-established vineyards.

It has taken time to learn which grape varieties are best suited to each region. It is clear that the Swan Valley is best for fortifieds, shiraz and aromatic whites such as verdelho; Margaret River for cabernet sauvignon, chardonnay and semillon sauvignon blanc blends; Mount Barker for riesling and shiraz; Frankland River for shiraz, riesling and cabernet sauvignon; Denmark for chardonnay; and Porongurup for riesling. At this time the situation is not as clear cut in other areas.

Expansion of wine production in WA has been phenomenal: from production of 7,000 tonnes (at the end of the 1970s), to 8,500 tonnes (early 1990s), 19,000 tonnes (1996), and 60,000 tonnes or 42 million litres (2004). The most recent increases have been fuelled by those wishing to invest in wine for export.

Until the 1990s there were few large vineyards in the state. Recent developments have seen this change, bringing with it the benefits of economies of scale. Quality is the key to Western Australia's high national wine profile: although only representing four per cent of national production, the state accounts for about twenty per cent of Australia's premium market for wines. **Peter Forrestal**

See also: Agriculture; Great Southern; Manjimup; Margaret River; Peel region; South-West; Swan Valley; Tourism
Further reading: F. Andrijich, P. Forrestal and R. Jordan, *Margaret River* (2003); R. Jordan, *Western Australia Ray Jordan's guide to wine 2008* (2007); M. Zekulich, *Wines Western Australia* (2000)

Woman's Christian Temperance Union
The Woman's Christian Temperance Union (WCTU) is the oldest women's social reform organisation still in existence. The first Western Australian branch was formed by American temperance missionary Jessie Ackermann in York in 1892, quickly followed by unions in Perth, Fremantle and eight other country towns, with the primary objective of promoting total abstinence from alcohol and other harmful drugs. In this it was part of a broader self-help evangelical movement which began in the 1830s and spread throughout the English-speaking world, producing groups like the Rechabites and the Good Templars, with a Band of Hope for children. However, the broader agenda of the WCTU was to promote the traditional nuclear family as an ideal and to discourage self-indulgence. Its aims included strong opposition to prostitution, sexual promiscuity,

homosexuality, and gambling in all its forms, including lotteries. Like its American counterpart, the WA Union believed that all these issues could be addressed through legislation; so the WCTU became involved with a wide range of political and social reforms, most notably women's suffrage. In 1895 it formed a Women's Franchise Department and was at the forefront of the campaign which resulted in women being enfranchised in Western Australia in 1899. The WCTU also provided social and spiritual support to women prisoners, opened Sailors' Rests in Fremantle (1900) and Albany (1919), and established children's and youth groups to educate young people about the dangers of alcohol and drug use. In 1925 it campaigned strongly for a 'yes' vote in a state referendum on prohibition, which was lost.

The WCTU was at the height of its influence during the first three decades of its existence, establishing twenty-nine unions, including fourteen scattered throughout the state, including the goldfields, and claiming a membership of over five hundred. It lost members steadily after the Second World War but it still continues its traditional work of campaigning against what it sees as social evils and promoting abstinence through educational literature and videos provided free to schools, groups and families. There is still an active young people's group, Drug Free Christian Youth, and a children's section, Tarpeena's Club. Annual state competitions for children in essay-writing, recitation and colouring-in are held, and are used to promote WCTU ideals. **Dianne Davidson**

See also: Female suffrage; Feminist movements; Gender; Women and political representation; Women's Service Guild
Further reading: J. R. Henderson, *The strength of white ribbon: a year-by-year record of the centennial history of the Woman's Christian Temperance Union of Western Australia (Inc.), ten decades of service for 'God, Home and Humanity' 1892–1992* (1992)

Women and political representation
Although white women received suffrage in Western Australia in 1899 there was no provision for women to be elected to parliament until 1920. Edith Cowan, the first woman parliamentarian in Australia, a conservative, was elected to the WA House of Assembly in 1921; May Holman, the first Labor woman, in 1925.

Women in this state have set an extraordinary number of 'firsts' for Australia in terms of election and parliamentary careers. Edith Cowan, elected at sixty, was an active proponent for improving the circumstances of women and children and for the participation of women in public life. Her legacy includes legislation to remove statutory barriers to women wanting to study and practise law. By amendment it did not apply to married women, as Premier James Mitchell emphasised the need to protect the structure of the family. Edith Cowan only served one term because her party also endorsed a man, effectively ensuring that a representative of the 'strong men' said to be needed in parliament was able to win. May Holman was thirty-two when elected as a voice for workers and trade unionism; she was elected five more times but died of injuries from a car accident immediately after the 1939 election.

In 1936 Florence Cardell-Oliver was elected as a conservative member of the Legislative Assembly, and in 1947 she became the first Australian woman to be appointed to a Cabinet. In 1954 Ruby Hutchison was the first woman to be elected to a state Upper House. She was a Labor member and had a fervent agenda to abolish the Legislative Council, which she said was not representative of a democracy.

Labor member Dorothy Tangney, elected in 1943, was the first woman to take her place in the Senate. In 1950 Agnes Robertson became the first conservative woman from WA elected to the Senate, first for the Nationalist Party, then five years later as the first woman senator to represent the Country Party. To

recognise their work, they and Cardell-Oliver were all awarded the title of Dame. Ruth Coleman (elected 1974) and Patricia Giles (elected 1981) were also elected as Labor Senators, but it was 1983 before a woman, Wendy Fatin, was elected from WA to the House of Representatives. She represented Labor and later held ministerial posts. In 1993 Judi Moylan was the first Liberal woman from WA elected to the House of Representatives, also becoming a minister.

Dr Carmen Lawrence, elected to the House of Assembly in 1986, was a cabinet minister in her second term. She became the first woman premier in Australia in 1990, then resigned from Opposition in 1994 to be elected to federal parliament as the member for Fremantle, and served as the Minister for Health in the Keating Labor government.

Although political parties say they acknowledge the need to reflect the contributions made by women to the political process, parliaments still do not reflect community composition in terms of gender (or ethnicity). Following the state election in 2008, there were fifteen ALP women, six Liberal Party women, three Independents, one Greens and one National Party woman. Of these twenty-six, fifteen sit in the Legislative Council with nineteen men (women comprise 44 per cent), but in the Assembly, eleven woman sit with forty-eight men (just 19 per cent). These proportions may reflect the gender composition of the parties but they also reflect daunting pre-selection processes, whether by merit or by quota. Federal representation is equally poor, with one Greens senator, a Liberal senator and three Liberal members of the House of Representatives (MHRs) and a Labor senator and two Labor MHRs out of twelve WA Senators and fifteen MHRs in office following the 2007 election.

Current and historical reasons underlie this inequity, which does not reflect a robust democracy. There are no issues that cannot be addressed by women: women do not deal exclusively with women's issues. But women come with different experiences, and many use those to distinguish their agendas and behaviours from those of the men. The influence of women lobbyists and women members has meant traditional women's concerns including equity and justice, domestic and sexual violence, among many, are addressed. It is appropriate still to cite Edith Cowan: 'I think you will find women as successful in Parliament as men. But the women members are judged by harsher standards'. **Judyth Watson**

See also: Equal opportunity legislation; Federal politicians; Female suffrage; Feminist movements; Gender; Politics and government

Further reading: D. Black and H. Phillips, *Making a difference: women in the Western Australian Parliament 1921–1999* (2000); A. Millar, *Trust the women: women in the Federal Parliament* (1993); H. C. J. Phillips, *The voice of Edith Cowan, Australia's first woman parliamentarian 1921–1924* (1996); J. Watson (ed.), *We hold up half the sky: the voices of Western Australian ALP women in Parliament* (1994)

Women on farms From the time of European settlement of Western Australia in the early nineteenth century, when government land grants fostered colonisation, the role of women on farms has changed from domestic and farming functions (women's classification as 'farmers' in an early census was later changed to 'dependants of breadwinners') to encompass a combination of community involvements, off-site activities engendering financial supplementation and management roles.

Women contributed to the success of early nineteenth-century farming ventures on the Swan, the Peel settlement near Pinjarra, Albany precincts, and in York and Toodyay. Following the opening up of the Wheatbelt in the early twentieth century, many farms were settled under a scheme of conditional purchase (in relation to improvements of the allotted blocks). Surveyed farm lots were

also given under a special scheme (e.g. the Yorkrakine Settlement) in 1908 to assist the unemployed as a result of the collapse of the gold industry some years previously. Women continued to undertake domestic and farming roles during these enterprises and through the Depression years, even though they were often seen by their contemporaries as supportive dependants. As late as 1952, the Director of Agriculture G. L. Sutton referred to the 'splendid part played by the women … in order to make homes in the unknown wilderness; in doing so they encouraged and inspired the men'.

Nevertheless, as a result of accidents or mortality from the early Swan River settlement era and into the twentieth century in the Wheatbelt, some women, by circumstance and necessity, were thrust into a management role, which they effected competently with, in most instances, the aid of hired labour and the assistance of neighbours. Women also had responsibility throughout this period for kitchen gardens, small livestock and poultry, and overseeing children's education. In the early and mid twentieth century there was also a hired labour force ranging from out-of-work factory girls employed as housemaids to 'lady helps' and 'companions' recruited from both rural and city areas as unmarried women sought an independent income. In addition, some Aboriginal women educated and trained for domestic service on missions (e.g. the Moore River settlement) were employed on farms.

The role of women changed dramatically during the Second World War. The Land Girls movement saw many young women from the city translocate to rural areas to fill the labour vacuum created as men entered the armed forces. These women performed many physical activities, such as driving machinery, an activity not previously seen as suitable work for women. After the First World War, and increasingly to the present, women also took a greater role in community and social activities ranging from church and charitable groups, the Red Cross and Country Women's Association (founded in 1924 in WA), in historical societies, local museums and local government (for example, serving on shire councils). Latterly, women have been a force in Landcare and nature conservation activities as well as serving on various agriculturally oriented boards. Some women from a farming background have found inspiration in the surrounding landscape and bushland and have become competent naturalists, botanical artists and scientists, writers and historians, whose works have gained national and international recognition. Examples include Georgiana Molloy of Augusta, Rica Erickson, Philippa Nikulinsky and Barbara York Main.

Land ownership remains a contentious issue. Although many farm businesses (possibly about 80 per cent) are conducted as partnerships between husband and wife, in most cases the title deeds belong to the husband, and, traditionally, sons inherit the property.

A survey in 1981 showed that, throughout Australia, almost 9,000 women were working as farmers or farm managers and that about 2,500 were employed as farm workers or supervisors. In 1996 a National Farmers Federation report showed that the number of women working in agriculture in Australia amounted to 32 per cent of the rural workforce. In Western Australia, many women on family farms conversely augment farm incomes by working off-site as nurses, physiotherapists, school bus drivers, gardeners, teachers, and in other activities, thus assisting with secondary school education of children and providing domestic amenities. Women from farms working off-site are also able to express their individual interests, skills, talents and creativity.
Barbara York Main

See also: Aboriginal women; Agriculture; Bush Nursing Society; Country Women's Association; Domestic work; Local government; Wheatbelt; Women's Land Army; Work, paid; Workers

Further reading: J. Carter, *Nothing to spare: recollections of Australian pioneering women* (1981); R. Erickson, *Rica Erickson: a naturalist's life* (2005); A. Hasluck, *Georgiana Molloy: portrait with background* (2002); Western Australian Women's Advisory Council, *Women's work on the land* (1987)

Women, ordination of The issue of the admission of women to the ordained ministry varied significantly among Christian denominations, influenced as much by decision-making structures as by theological principles. While there was some positive support for change in Roman Catholic circles, especially among the laity, persistent papal opposition removed the issue from the practical agenda for the foreseeable future, though it continues to be actively promoted by both lay and clerical supporters.

Among the bodies that eventually formed the Uniting Church, change occurred gradually, in many cases with deaconesses being advanced to full ministry. Outside WA, Congregationalists had ordained women as early as 1927. Within WA, the first Methodist woman minister was ordained in 1969, while Presbyterians had not ordained women prior to Union in 1977. Over time, governing bodies at national level had decided there were no theological or practical reasons why women should not be ordained, and the issue was resolved naturally within the framework of the Uniting Church. Such resistance as did occur was due less to theological principle than to practical conservatism. In 1991 the diaconate was renewed, with deacons having a status equal to ministers, but operating primarily within the wider community. Those Presbyterians who remained outside the Uniting Church in Australia subsequently rejected the ordination of women as ministers and elders and reversed the status of ordained women in 1991, resulting in considerable anguish.

Within the Anglican Church there was strong opposition to the ordination of women, based on two distinct and even contradictory bases. Some evangelicals based their opposition on a literal reading of St Paul's strictures against women exercising leadership over men, while some (but not all) of an Anglo-Catholic persuasion opposed change on sacramental and ecumenical grounds, arguing that the apostolic priesthood had been limited to men, that a male priesthood was of the unchangeable essence of the church, and that in any case no change should occur that would threaten future ecumenical relations with Rome or Eastern Orthodoxy. Prominent among these opponents in WA was the group Women against the Ordination of Women.

Perth was destined to play the leading role in resolving the issue, in a context fraught with conflict. Archbishop of Perth, Peter Carnley, had ordained women as deacons in 1986, but when he announced plans to ordain the first Anglican women priests in Australia in March 1992, opponents took the issue as far as the Supreme Court of Western Australia, which eventually cleared the way for the ordinations to take place. The Archbishop had operated with the authority of decisions by the Perth Diocesan Synod, though the General Synod of the Anglican Church only made its decision endorsing ordination in July 1992, after the Perth ordinations had taken place. The issue eventually faded from prominence, but returned in reference to the consecration of women as bishops when in April 2008, Perth archdeacon Kaye Goldsworthy became the first Australian woman to be consecrated as a bishop. **John Tonkin**

See also: Anglican church; Congregational church; Feminist movements; Methodist church; Spirituality and religion; Uniting church
Further reading: W. Emilsen and S. Emilsen (eds), *The Uniting Church in Australia: the first 25 Years* (2003); M. Porter, *Women in the church: the great ordination debate in Australia* (1989); J. M. Tonkin, *Cathedral and community: a history of St George's Cathedral, Perth* (2001)

Women police Women in policing is a theme in WA law-enforcement history with origins dating back to the colonial era. Women were always a necessary adjunct to early policing life, especially in relation to the feeding of prisoners in lock-ups and searching female offenders when necessary. Such tasks were often the important but forgotten work of the wives of serving police officers, whether in the cities or more remote areas.

During the First World War, social dislocation led to major changes in attitudes affecting both the government and the police force. Pressure was brought to bear by organisations such as the Women's Service Guild, which was alarmed by a perceived collapse in moral standards and in accepted patterns of family life. An additional factor was public concern about the spread of venereal disease, which had been a key factor in the appointment of women police in New South Wales in 1915. Some intensive lobbying

Policewoman Mary McCann at Kalgoorlie, July 1958. Courtesy West Australian *(W8597)*

resulted in the appointment in 1917 of two female constables, Helen Dugdale and Laura Chipper.

Despite earlier reservations, including a belief that increasing the number of women inspectors attached to the State Children's Department might be a better option, Police Commissioner Robert Connell was impressed by the work of the women constables, and the numbers of women police increased steadily in the following decades.

The women had nursing qualifications, worked in plain clothes and were given the same pay as male officers, a remarkable innovation for the era. There were restrictions: resignation was required after marriage and work was focused on child welfare, health, and what would now be considered social welfare issues. The Depression years of the 1930s and another great national crisis, the Second World War, cemented the role of female police officers and their work was highly praised by the high command of the Force.

In the postwar years, a number of women reached senior rank in the state's police force. Ethel Scott was one of the first women to reach commissioned rank in Australia. In 1957 the requirement to be a trained nurse was removed. By the 1970s it was recognised that the growth of various public welfare agencies was making some of the 'traditional duties' peripheral and major changes were in the air.

A reform process, beginning in 1975 and solidified a year later, led to the amalgamation of women police into general policing and the specialised branches of the Force. Female officers 'went into uniform' and the restriction on married women was removed. Henceforth, women police became partners of their male colleagues in the broader fields of law enforcement, although the slow and incremental pace of cultural change remained a factor until fairly recent times. The early years of the twenty-first century have been marked by a steady increase in the number of female officers in the current Police Force and

by expanded career opportunities, culminating in the appointment of the state's first female Assistant Commissioner. **Peter Conole**

See also: Gender; Police and policing; Venereal disease; Water police; Welfare
Further reading: P. Conole, *Protect & serve: a history of policing in Western Australia* (2002); Centre for Police Research, *Into the blue: a celebration of 80 years for women in policing in Western Australia* (1998); J. Eveline and S. Harwood, *Changing the culture from within: reshaping the gendered organization of police work* (2002); L. Stella, 'Policing women: women's police in Western Australia, 1917–1943', Honours thesis, Murdoch University (1990)

Women, world wars During the First World War the role of women in the war effort was restricted. They joined sewing circles, knitted socks and raised funds by holding afternoon teas and fetes for organisations like the Red Cross, the Soldiers Parcel and Packets Fund and other patriotic funds.

This was still the initial focus when the Second World War was declared. By the end of 1939 in the Perth metropolitan area, 1,300 women had registered for voluntary emergency duties. The Women's National Voluntary Register and, from 1941, the Women's Australian National Service (WANS) organised women to take on voluntary duties staffing canteens, working in factories or providing entertainment. This also included knitting for the war effort, sewing and making camouflage nets, as well as 'plane watching' in rural centres and nursing in voluntary Red Cross groups. By 1942 women were providing sufficient voluntary labour to staff seven canteens, buffets and hostels that had sprung up in Perth to provide meals and accommodation for members of the forces, as well as canteens in halls in the suburbs and country towns. By that year too the Women's Land Army had been established.

Women were also manpowered, so that the employment of women in Western Australian factories increased by more than 22 per cent between 1942 and 1943. Most were employed working in metalwork and machinery in newly established munitions works and small-scale industry, with the number of women in these areas growing from only 165 in 1939 to 2,035 in 1943.

The possibility of joining the armed forces had not become a reality until 1941, when the federal government gave its approval for the establishment of the Women's Australian Auxiliary Air Force (WAAAF), the Women's Royal Australian Naval Service (WRANS) and the Australian Women's Army Service (AWAS). This gave women the opportunity to travel and the possibility of learning new skills.

The majority of jobs in the forces for which women were recruited fell into the category of traditional female tasks. They were recruited into the AWAS as cooks, clerks, typists, waitresses, telephonists, canteen attendants, ward orderlies, tailoresses, textile refitters and transport drivers. In 1942 about thirty AWAS were stationed on Rottnest. The WAAAF required similar skills, recruiting clerks and teleprinter, wireless and telephone operators, storekeepers, cooks, mess stewards, mess women and transport drivers. The WRANS began with corps of signallers and telegraph operators. Nursing services were established in both the RAAF and the Army. Gradually the list of occupations broadened. The age limit for women joining both the AWAS and the WAAAF was eighteen to forty-five years.

Of the 27,874 WAAAFs (including the RAAF nursing service) recruited in Australia, 3,345 were from Western Australia. Nationally, 35,800 AWAS joined up, of whom 2,954 were Western Australian. The majority of these women enlisted between July 1942 and July 1943. The WRANS had a national enlistment of 2,509 ratings and 108 officers. In 1945 there were 4,800 women enlisted in the various different armed services in Western Australia.

There has been limited research into the experiences of Western Australian women in the forces, but it is known that some served overseas. There is a memorial at Augusta commemorating the Australian Army Nursing Service (AANS) sisters lost during the Second World War. The tragic case of the sixty-five women of the AANS who escaped from Singapore on the *Vyner Brooke* is well known. The vessel was bombed and an estimated twenty-two survivors taken prisoner of war. After the war, hundreds welcomed the nurses when they arrived in Fremantle in the hospital ship *Manunda*. It is not known whether any were from Western Australia, but all were taken to recuperate at Hollywood Military Hospital. One was Nurse (later Matron) Vivian Bullwinkel (later Statham), the sole female survivor of a massacre of some of the women from the *Vyner Brooke* on the beach on Banka Island.
Jenny Gregory

See also: Air Force; Army; First World War; Navy; Second World War; Women's Land Army
Further reading: S. Buttsworth, 'Women Colouring the Wartime Landscape', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); Gail Reekie, 'Shunted Back to the Kitchen: Women's Responses to War Work and Demobilisation', in J. Gregory (ed.), *On the homefront: Western Australia and World War II* (1996); *Australia's War 1939–1945*, www.ww2australia.gov.au/index.html

Women's Electoral Lobby The Women's Electoral Lobby (WEL) is a feminist non-party political lobby promoting equal opportunity for women. It was formed in Melbourne in 1972 and successfully put women's issues on the agenda in the federal election of that year through its national survey and rating of candidates. The inaugural meeting of WEL (WA) was not held until March 1973, but Pat Giles became the first convenor and membership

grew rapidly, including regional groups. Since 1973 the WEL (WA) monthly newsletter, *Broadsheet*, has disseminated information on policy issues of special significance for women.

WEL (WA) worked for the establishment of women's refuges and women's health centres, the introduction of equal opportunity legislation, and for government policy machinery for women. It was not until the election of the Burke Labor government in 1983, however, that WEL members were able to help set up a Women's Interests Division in the Premier's Department, a Women's Advisory Council, and the Women's Information and Referral Exchange.

The confidence, skills and networks gained through WEL helped propel a large number of WEL activists into public careers. Two founding members of WEL (WA) entered federal parliament. Pat Giles was elected as a Senator for Western Australia in 1980 and led the Australian delegation to the Nairobi Women's Conference in 1985. Wendy Fatin was elected to the House of Representatives in 1983 and became Minister Assisting the Prime Minister for the Status of Women in 1990, appointing long-time WEL (WA) member Val Marsden as Convenor of the National Women's Consultative Council. The chief instigator of the WA *Equal Opportunity Act 1984*, WEL member Yvonne Henderson, was given the honour, as a backbencher, of introducing the Bill into the Legislative Assembly. Later she became a cabinet minister and then the WA Commissioner for Equal Opportunity in 2003, replacing long-time Commissioner June Williams from WEL (NSW). Other WEL members who entered state parliament, Cheryl Davenport and Diana Warnock, were particularly associated with the achievement of abortion law reform in 1998. Outside parliament, Joan Eveline conducted an independent review of the gender pay gap for the Gallop government in 2004. From the 1970s local government has benefited from the election of many WEL members, including Joan Williams, June Hutchison and Robyn Murphy.

Carmen Lawrence, who helped design and analyse the 1972 WEL survey, became premier of Western Australia in 1990—the state and the nation's first woman premier. Later she was elected to the House of Representatives and became a federal cabinet minister and President of the Australian Labor Party. In the 1990s, WEL (WA) was involved in diverse projects, from the long campaign to set up the Women's Legal Service to running national Hysterical Women cartoon competitions and organising the 'Mile Long Banner' to commemorate the centenary of women's suffrage. Each of these projects brought new life and members into WEL, including the development of a young women's group.

Women's non-party advocacy has a long tradition in Western Australia. For some sixty years Bessie Rischbieth's Australian Federation of Women Voters lobbied all levels of government on matters relating to equal opportunity for women. In 1982 Irene Greenwood was instrumental in passing to WEL the Federation's role as the Australian affiliate of the International Alliance of Women (IAW). Pat Giles became the first Australian President of the IAW in 1996, continuing the internationalism of the WA women's movement into the new century. **Gail Radford and Marian Sawer**

See also: Abortion; Equal opportunity legislation; Female suffrage; Feminist movements; Gender; International Women's Day; Women and political representation; Women's health organisations; Women's refuges
Further reading: P. Burnett, *History of Women's Electoral Lobby Perth, Western Australia, 1973–1984* (1985); V. Marsden, 'White knuckles and strong women', in J. A. Scutt (ed.), *Living generously: women mentoring women* (1996)

Women's health organisations emerged in reaction to patriarchal medical services.

Informed by feminism, empowerment philosophy and the social model of health, women's health centres are based on the notion that women will gain control of their lives only when they have control of their bodies.

The women's health movement in Australia gained impetus from the Whitlam government's innovative Community Health Program in the 1970s and from International Women's Year funding in 1975. In Perth, the Women's Centre Action Group established the Glendower Street Women's Health and Community Centre in 1974 to offer health, rape-crisis and refuge services. Its closure eighteen months later reflected long-term tensions between mainstream health services, funding authorities and feminist health centres. Perth's Women's Health Care House opened soon afterwards to become, by the turn of the century, one of thirteen women's health centres in the state. These centres differentiated women's health care from sexual assault and domestic violence services (now undertaken separately at Nardine and elsewhere), and diversified to accommodate the special needs of Indigenous and rural women, and those of diverse cultural and linguistic backgrounds. The centres adopted corporate management structures that contrasted with earlier experiments with collective organisation. They became loosely linked to the Australian Women's Health Network and influenced by the National Women's Health Policy (1989). **Lynne Hunt**

See also: Feminist movements; Sexual assault; Women's refuges
Further reading: D. H. Broom, *Damned if we do: contradictions in women's health care* (1991); L. Hunt, 'The Principles and Practice of Women's Primary Health Care', in C. Rogers-Clark and A. Smith (eds), *Women's Health: A Primary Health Care Approach* (1998); S. M. Murray, *More than refuge: changing responses to domestic violence* (2002)

Women's Land Army The Women's Land Army concept was considered by the Country Women's Association (CWA) as early as September 1940, based on British war experience. Prior to that, Florence Hummerston had organised the Women's Australian National Service (WANS) in 1939 to send volunteers to farms, dairies, orchards and tobacco factories. That scheme ran until 1945. Local CWA branches assessed that the situation was more urgent: there was a need for women to work on the land and also to provide home help to farm families. Faced with a negative response from the Commonwealth, the CWA launched its own scheme with initial training at Fairbridge in late 1941. Almost two hundred young women were placed, before continuing rural labour shortages led to the establishment of the Australian Women's Land Army in July 1942 under the Commonwealth Director-General of Manpower. Virtually all of the members of the CWA-sponsored 'Land Girls' enrolled in the new service. Despite initial scepticism, the general response from farmers was 'my land girl is worth two men'. Regulations formally constituting the service as a fourth uniformed National Women's Auxiliary were only enacted after the war ended.

The Women's Land Army only latterly received official recognition for its contribution to the war effort and the vital task of maintaining food and agricultural production. In 1995, service in the CWA 'Land Girls'

Land Army girls at Pinjarra. Land girls with baskets of picked grapes, January 1945. Courtesy West Australian *(WAR390)*

Western Australia and the Australian Women's Land Army was included in the eligibility requirements for the Civilian Service Medal 1939–45. **Robert Mitchell**

See also: Country Women's Association; Second World War; Women on farms; Women, world wars
Further reading: P. Adam-Smith, *Australian women at war* (1984); Country Women's Association of Western Australia, *The Countrywoman of Western Australia* (1940–2007)

Women's refuges emerged as a part of the women's liberation movement of the early 1970s as a response to domestic violence. The first such refuge began in Sydney in 1974 with eleven similar feminist services established during the following twelve months in all major cities of Australia, including Nardine Women's Refuge in Perth, late in 1974. Three related services pre-dated Nardine in Western Australia: Byanda (1895), Ave Maria (1961) and Warrawee (1971); however, these services only later identified domestic violence as a reason that women sought assistance. Domestic violence was understood as a manifestation of unequal gendered power relations, and so while women's refuges provided accommodation and support, their workers were also concerned with social change and lobbied for improvements to the welfare, legal and criminal justice systems.

Unpaid volunteers and donations set up the first feminist refuges, which were resourced by first state and then, from 1985, Commonwealth/state funding through the Supported Accommodation Assistance Program. Service provision has also been enhanced by the development of outreach programs and specialised services for children. In 2005 there were forty refuges and outreach services in WA operating at an annual cost of $12.7 million.

Refuges are now not the only service response to domestic violence. Other initiatives include community education campaigns,

Indigenous-specific services, programs to assist men to change their violent behaviour, and a domestic violence court. However, while service responses have improved since the 1970s, there is no indication that the incidence of domestic violence has decreased.
Suellen Murray

See also: Feminist movements; Gender; Marriage and divorce; Sexual assault; Social work; Welfare

Further reading: M. Lake, *Getting equal: the history of Australian feminism* (1999); L. McFerran, *Beyond the image: Women's Emergency Services Programme Evaluation 1987* (1987); S. M. Murray, *More than refuge: changing responses to domestic violence* (2002)

Women's Service Guild The Women's Service Guild was a pioneering feminist organisation formed in Perth in 1909 to promote equal citizenship rights for women. Although there were some similar eastern states bodies with different names, many of the early members of the Women's Service Guild were most deeply influenced by the political activism of women in Great Britain. The Guild was non-party political and had strong theosophical connections in its early years. In 1920 it changed its name to the Women's Service Guilds of Western Australia (Non-Party), since several branches had been formed.

During the presidency of Bessie Rischbieth (1915–23), the Guilds helped to form the first Australia-wide feminist network, the Australian Federation of Women Voters (AFWV), in 1920. Rischbieth was a political idealist and visionary who dreamed of a fully democratic world with an informed and educated citizenry. She set up networks to enable Australian women to organise politically on a national level, as women rather than as members of political parties. She was elected inaugural president of the AFWV, a position she retained until 1942, and during

this period the organisation operated out of the Guild offices in Perth. The Guilds affiliated with the AFWV, and through that body acquired international links with the International Woman Suffrage Alliance. The Guilds' monthly publication, *The Dawn*, first published in 1919, gained accreditation to the press gallery of the League of Nations.

The Guilds campaigned for the establishment of a maternity hospital, better conditions for female prisoners, setting up of kindergartens, formation of the Girl Guides in WA, appointment of women police and justices of the peace, as well as being pioneers on environmental issues and on Aboriginal citizenship rights. Between the wars they were active in the peace movement, often working with the Women's International League for Peace and Freedom.

From the 1950s onwards, the Guilds gradually focused more on welfare work, organising the establishment of the Slow Learning Children's Group (now Activ Foundation), Beehive Industries, the Civil Rehabilitation Council and the Citizens Advice Bureau. They also remained active in environmental campaigning, principally through the Kings Park and Swan River Preservation Society and the Tree Society. There was a short-lived attempt at recruiting younger members interested in women's issues in 1972, with the formation of the Harvest Guild, but most of these younger women were soon attracted to the more dynamic and forceful Women's Electoral Lobby, also formed in 1972.

By 1993 all branch Guilds had closed through loss of membership and the Women's Service Guild dropped the plural from its name. In 1997 it ceased to exist, using its considerable funds to endow a postgraduate scholarship to promote research related to women and children. Issues concerning women and children, the major concerns of the Women's Service Guild from its inception, were now part of the platform of every political party, a major preoccupation for historians, and the subject of major changes

to the law. There were now many ways in which interested persons could work to promote the wellbeing of these two groups in society. **Dianne Davidson**

See also: Conservation and environmentalism; Female suffrage; Feminist movements; Gender; Theosophy; Welfare; Woman's Christian Temperance Union; Women and political representation; Women's Electoral Lobby

Further reading: P. Cowan, *A unique position: a biography of Edith Dircksey Cowan, 1861–1932* (1978); D. Davidson, 'A citizen of Australia and of the world: a re-appraisal of Bessie Mabel Rischbieth', in P. Crawford and J. Skene, *Women and citizenship: suffrage centenary: Studies in WA History*, 19 (1999); D. Davidson, *Women on the warpath: feminists of the first wave* (1997)

Wool was first exported from the Swan River colony in November 1831, when three bags were shipped by James Henty to England via Launceston, and were apparently sold by auction in the 1832–33 season. By early 1837 sheep numbers in the colony were over 8,000. Sheep meant wool, and the colony's first wool trader was James Stokes, a wool-stapler whose extensive knowledge of wool was a great boon to other settlers. In the early years sheep washing was practised to cleanse the wool of grease and dirt, but by the 1870s it had become apparent to English buyers that the inherent characteristics of wool were more recognisable in its greasy state, and by 1900 wool washing had almost ceased.

In 1875 exports of greasy wool totalled some 8,000 bales; by 1900, with the sheep population numbering 2,400,000, this had risen to approximately 30,000 bales. This increase was partly assisted by the complete eradication of scab in 1897 from all flocks in the colony, and also by the improved cut per head from grazing sheep in fenced paddocks. Before the First World War, most of the state's wool was sold in London, with six per cent

going to eastern states' markets, and Fremantle traders only handling small catalogues offered at auction by the three Fremantle wool brokers: Elder Shenton & Company, Dalgety & Company and C. H. Fielding Limited. By then, efficient machine shearing had supplanted blade shearing, and shearing contractors were engaged to shear and class pastoral clips.

Wool appraisements, whereby Britain bought almost all Australian wool, were introduced in 1916. When the appraisements ended in 1920, the first wool auction attended by overseas buying interests was held in Perth on 6 December 1920. That same year some 173,000 bales of greasy wool valued at £3.6 million, plus scoured wool worth £328,000, were exported from WA. Following another appraisement scheme during the Second World War, the wool brokers attempted to hold a wool sale in Geraldton in 1946, but it was boycotted by buyers reluctant to incur the expense of travelling and accommodation for a total offering of only 1,200 bales. Exports of greasy wool grew to approximately 248,000 bales a year in 1951, when prices reached record levels. Close to Fremantle were four wool-scouring plants that earned a worldwide reputation for producing an exceptionally high standard of scoured wool.

In 1957 the four selling brokers: Elder, Smith & Co. Limited, Dalgety & Co. Limited, Goldsbrough Mort & Co. Limited, and Westralian Farmers Co-operative Limited, inaugurated auctions at Albany of wool drawn from the South-West and Great Southern districts, attracting buyers seeking the particularly clean wools, free of seed, from the Great Southern. In a move to centralise the industry, 1960 saw wool auctions move from Perth to Fremantle.

Wool-growing was originally a pastoral industry, but, with the opening up of agricultural land, changed in these areas with grain-growing into mixed farming. Since the 1920s the state's wool had subtly changed, particularly in the districts from Mullewa southward, where farmers found the strong-

woolled Bungaree blood Merino from South Australian studs well suited to the long, dry summers. Although a large percentage of wool in the agricultural areas now carried trefoil burr, the state was mercifully free of Noogoora burr, the scourge of woolgrowers in many eastern states areas. During the 1960s the West Kimberley pastoralists found that shearing in September produced a bulkier fleece, free of the seed and canary stain characteristic of March shearing.

Scientific core testing and grab sampling have now eliminated costly show-floor display, with buyers now relying on test details in place of visual and manual judgement of fibre diameter and yield. High-density compression of bales, or dumping, now conserves storage and shipping space to a greater extent. However, apart from the introduction of wide combs on handpieces, and spring-suspended back supports for shearers, there have been no major changes in the shearing methods of past years. Considerable research and trials have been conducted in the last decade into mechanised sheep shearing, but no satisfactory alternative has yet been devised, and the state's sheep continue to be shorn with the traditional handpiece.

The principal wool-producing areas are now the pastoral districts from the Kimberley down to the Murchison and the Eastern Goldfields, which account for approximately 7 per cent; the Midlands and Wheatbelt accounting for some 30 per cent; and the Great

Resting on the wool bales after shearing, n.d. Courtesy West Australian *(HIST5440)*

Southern for almost 47 per cent of the state's production. In line with the national trend, China is the largest importer of WA wool, followed by Italy, and then again by Japan and Korea. Despite a significant decline from the 1989–90 peak production of 236,000 tonnes down to 119,000 tonnes in the 2004–05 season, this figure comprised 24.5 per cent of Australia's total wool production. From the shearing sheds to the wharf-side, the state's wool industry remains a major factor in Western Australian commerce. **Christopher Fyfe**

See also: Agriculture; Economy; Livestock
Further reading: C. Fyfe, *The bale fillers: Western Australian wool, 1826–1916* (1983)

Work, paid In Western Australia, for much of the nineteenth century, workers and bosses worked together in intimate face-to-face relationships. Though regulated by indentures and the *Masters and Servants Acts* of the 1840s, the quality of these relationships often depended on the skills workers possessed: tradespeople with scarce skills were treated best and could demand good pay; unskilled workers were more vulnerable.

Over the course of the nineteenth century paid work became what men did away from home. Ideally, a man would have a full-time job for life, although work for the unskilled was often intermittent, shaped by the seasons, weather and the trade cycle. Some businesses kept a core of skilled workers and an outer shell of casuals who were put on and off as conditions demanded; wharf labourers were a prime example of this practice.

In the second half of the nineteenth century, racial ideologies shaped the work and workplaces of Aboriginal, Chinese, Indian, Japanese and Malay workers. Seen by whites as inferior, their conditions of work were often brutal (many Aboriginal workers in the pearling and pastoral industries were treated little better than slaves) and their pay low or even non-existent. Regulations governing

their employment, passed later in the century, changed little.

Nineteenth-century ideologies prescribed that married women did not do paid work, but working-class and rural women still worked, doing casual work or bartering goods and services. Single working-class women undertook paid work—mostly in domestic service, but, as the century progressed, also in small factories and shops—while middle-class women took work as nurses, governesses and, later, teachers. Domestic service remained the biggest single employer of women in Western Australia until the Second World War.

During the gold rushes of the 1890s many men sought independence as self-employed prospectors, but as surface gold ran out, many diggers went underground to work for wages in big, capitalist mines. In Perth, workplaces increased in size and complexity. New occupations—shift bosses, foremen and middle managers—bridged the gap between bosses and workers. Authority was increasingly exercised, and contested, in different ways. From the 1890s workers organised in trade unions to advance and protect their pay conditions and exert control over their work. When employers tried to increase output to intolerable levels, workers set limits that reflected their standard of comfort. Skilled workers restricted entry to their trades to maintain their conditions. The federal and Western Australian systems of arbitration, established in the early twentieth century, were designed in part to regulate these conflicts. Contemporaneous factory legislation was designed both to protect workers from unsafe work and to restrict the kinds of work women and children could do.

Much work in the nineteenth century was manual, hard and heavy, so the arrival of new technologies was often a blessing. It also had other effects. Diving suits changed the ethnic composition of the pearling workforce in the later nineteenth century because Japanese divers were thought to handle suits better than Aboriginal and Malay divers. The mechanical shearing machine changed the work of shearing. Mechanisation had its greatest impact in manufacturing. Machines created some new jobs and destroyed others. In installing new machines, one aim of manufacturers was to replace skilled tradesmen with machine minders at lower wages. The epitome of mechanisation was the assembly line, but it was not used in WA because of the small scale of manufacture.

In the twentieth century many workers took up farms under various settlement schemes and were joined after the First World War by soldier, group and imperial settlers. Clearing and farming difficult land by hand, especially in the huge forests in the south-west, was both back- and heart-breaking work in which whole families took part. Many, unable to cope, abandoned their farms; families with capital, farming knowledge and sons were more likely to succeed. Aboriginal families from country towns often worked as seasonal labourers on farms, clearing, shearing and sewing bags. In the north, pastoralists evicted Aboriginal people from their stations after they were granted equal pay in the 1960s and when new technology (motorbikes, helicopters and road trains) provided a cheaper alternative to Aboriginal drovers.

Until the 1950s manufacturing in Western Australia was small scale: light engineering, light manufacturing, repair, etc. Photographs of clothing and biscuit factories show the performance of repetitive and de-skilled tasks, usually undertaken by girls and women who could be paid low wages and were easily replaced. The sexual division of labour, which consigned most women to low-skilled and poorly paid work, was in part a result of the process of subdivision of work processes. In the twentieth century de-skilling became a basis of workplace reform. The idea was formalised by workplace reformers like the American F. W. Taylor, who believed that tradesmen stood in the way of higher productivity and bigger profits. Taylor advocated separating the conception and execution of jobs, replacing the tradesman with design

offices in which work could be conceptualised and planned, and with unskilled labourers, who would do the newly de-skilled work. Tradesmen recognised the threat to their jobs and resisted in many ways.

New machinery changed the nature of work, but it still needed workers to press buttons, pull levers, slot work in and take it out. Automation, however, promised to do away with workers altogether, and since the advent of heavy industry in Kwinana in the 1950s there has been an increasing emphasis on developing automated, robotic production systems. From the 1980s, advances in computer technology made it possible to run machinery without any human input beyond the work it took to program the computer and link it to an automated machine. Again, the application of computer-aided design and manufacture depended on the cost structure of the organisation, but cheap microcomputers have now become almost universally available.

The subdivision of tasks created new jobs in a range of industries, and over the years these became institutionalised by employers and unions in arbitration court awards. However, by the 1980s the disadvantages of subdivision and de-skilling had become obvious. In the face of global competition, employers wanted flexibility, governments increased productivity and workers more interesting jobs, so subdivision and de-skilling were replaced with broadbanding and multi-skilling, enabling workers to learn new skills and do new jobs. This approach worked better with semi-skilled rather than skilled workers, who still zealously defended their jobs. With multi-skilling, teamwork became the new slogan of workplace reform. It worked in some instances, but in others it resulted in work intensification and increased control. At the same time, new management fashions such as Human Resource Management and Quality Control Circles tried to incorporate workers into the aims of their employers.

In the history of office work, employers exercised control by providing career ladders,

a job for life, superannuation and the high status of a white-collar job for male employees, while demanding unquestioning loyalty and paying low wages. The increasing size and complexity of offices in the twentieth century gradually undermined this system. Some jobs remained career (hence men's) jobs, while others became de-skilled and fragmented, and were often done by women. As with factories in the 1970s and 1980s, employers realised that subdivision of office work had its limits and began to re-make offices into more attractive places to work, multi-skilling staff, and providing workstations and group working to increase productivity.

Many jobs in the rapidly growing service sector, particularly those involving face-to-face relations with customers or clients, were untouched by these kinds of reforms. Work issues were different for the professions who used their power to exclude other and similar occupations from their fields, and their expert knowledge gave them considerable autonomy in their work. The general rule became: the greater the responsibility, the greater the autonomy, the greater the reward. Retailing, on the other hand, remains based on face-to-face relations, although jobs like supermarket checkouts have been de-skilled by computer technology. Other jobs in the service sector are 'McJobs' for young people: closely supervised, poorly paid and tightly scripted.

Work has changed more in Western Australia in the last twenty years than over the previous century. The dream of a job for life has ended. Many workers find themselves churning through a succession of short-term jobs. Full-time permanent workers have fallen from about 90 per cent of the workforce in the 1960s to just over 60 per cent in the first decade of the twenty-first century. New technologies allow new forms of surveillance (consider ringing a call centre and hearing 'this call may be monitored for training purposes') and also for work once done by Western Australians to be outsourced overseas (for example, call-centre workers in

India, working for Western Australian companies). More workers are now self-employed, either seeking independence or being forced by cost-cutting employers to call themselves independent contractors.

Unionisation rates have been in freefall as employment diminishes in highly unionised jobs and expands in jobs without a union history, and governments replace collective agreements with individual workplace contracts. Since the passage of the Western Australian Liberal government's three waves of industrial reform in the 1990s more workers deal with bosses as individuals, thereby losing the protection of both unions and industrial regulation. The passage of the new workplace reforms by the federal government in late 2005 radically reduced the protections and entitlements workers had long been used to. But the combination of a buoyant labour market and, by 2008, the presence of Labor governments in both Western Australia and the Commonwealth committed to the restoration of workplace protections, signalled the end of the era of neo-liberal workplace reform and promised a return to a fairer workplace.
Charlie Fox

See also: Aboriginal child labour; Aboriginal labour; Domestic work; *Master and Servants Act*; Sex work (prostitution); Trade unions; Unemployment; Workers
Further reading: R. Callus and R. D. Lansbury (eds), *Working futures: the changing nature of work and employment relations in Australia* (2002); C. Fox, *Working Australia* (1991); G. Patmore, *Australian labour history* (1991); *Papers in labour history* (1989–)

Workers The colony's first paid workers were servants to the settler elite. These agricultural labourers, domestic servants and tradespeople arrived in the colony bound into service to a master by legal indenture, which committed workers (and frequently whole families) to serve their master for five to seven years at a set rate of pay. In return, the family received free passage to the colony, food and board. Indentured servants were not free workers, although Western Australia prided itself on its initial status as a free colony, unmarked by the stain of convict transportation.

Colonial contract workers and Aboriginal labour quickly supplemented this indentured workforce. Nyoongar people worked for the early colonists as guides, trackers, seasonal farm labourers and mail carriers. Efforts were made to educate Nyoongar children to establish a steady source of servants, and child migration schemes provided British orphan and destitute children as apprentices to colonial employers. Yet labour shortages bedevilled the struggling colony, and many masters and mistresses deplored the disobedience of servants. The master/servant bond of patronage/deference frayed in the new environment, as indeed it was fraying in industrialising Britain.

Most land occupiers worked for themselves, utilising the labour of all family members. Women and children were essential to pioneering rural and urban work, but were not formally acknowledged as workers, being included as 'residue' or 'dependents' in all censuses, except that of 1881 where women's domestic labour was properly recognised. Most colonists sought freedom in small farms and urban businesses from the bonds of employment, the goal of making an independent living attracting successive generations of settlers.

As the economy prospered in the 1840s, wealthy employers in the key agricultural and pastoral sectors intensified their search for cheap, easily regulated labour. Parkhurst Apprentices, juvenile male convicts, were assigned to private employers as farm workers, domestic servants, seamen and trades' assistants. They were the harbingers of adult male convicts who arrived between 1850 and 1868, and greatly relieved the labour demand among large landholders by their direction into private employment as ticket-of-leave

convicts and subsequently as expirees. The regime of unfree labour operating during these years greatly assisted Western Australia's economic development, convict road gangs building essential transport links and ticket-of-leave holders boosting stock-raising and food-growing. These benefits, however, came at great cost in physical suffering and social exclusion to most of this group of workers.

The colony's shortage of domestic servants continued unabated because no female convicts were transported. Assisted migration schemes for young single women of 'virtuous character' attempted to relieve both this shortage and the gender imbalance in the adult population. The search for female domestic servants continued into the twentieth century and encouraged the training in domestic skills of Aboriginal girls, girls in orphanages and other charitable institutions, and female child migrants. To the minds of future employers all held promise of solving the servant problem. But it was not to be, because most of the girls had other ideas about desirable employment and the direction of their lives, even if they were forced to comply in the short term.

Except for Aboriginal workers, almost all early colonial workers were English, Scottish or Irish in ethnicity. A few Chinese indentured labourers arrived in the 1840s, but it was not until the colonial frontier pushed into the North-West in the 1860s that the demand for Asian labour grew to a clamour. Workers from across the South-East Asian archipelago (collectively labelled Malays) and Japanese divers, all on short-term contracts, sustained the pearling industry. Indeed, their labour became so essential that pearling was exempted from the strictures of the White Australia Policy in the twentieth century. The northern pastoral industry, from its inception to the 1960s, and the pearl shell industry, in its first years, both relied on Aboriginal labour. In the pastoral north, station work was primarily Aboriginal work.

The prospect of striking it rich and securing economic independence lured prospectors

into the colony during the gold rushes of the 1880s and 1890s. Most did not make their fortunes and either returned to their former work or became employees of the mining companies, which rapidly took control of the deep leases from the alluvial diggers. With 20 per cent of the total workforce located in the mining sector in 1901, and the majority employees in large company mines, the goldfields became a stronghold of organised labour. Miners' trade unions as well as unions of winder-engine drivers, carpenters, metal workers, plumbers and other ancillary trades were established and began to cooperate industrially and politically. They linked with organised workers on the coast, predominantly skilled tradesmen, and a state labour movement was created. Organised labour was mostly ethnically British and male, although some women workers—for instance, the tailoresses, barmaids, laundry workers and shop assistants—formed trade unions. On the whole, however, women's work remained beyond the reach of labour organisation.

The growing numbers of ethnically diverse workers also remained outside the world of organised labour, which was proudly 'White' and British. Chinese workers, forbidden from obtaining a Miner's Right to prospect, turned to market gardening, laundry work, domestic service, shopkeeping and furniture-making. Afghans and Indians worked as hawkers and cameleers, providing vital transport links around the vast expanses of the goldfields and outback. These workers faced systemic discrimination, pushed to the margins of the labour market, excluded from community life, and prevented by immigration restrictions from establishing families in Western Australia. Only Broome and, to a lesser extent, the other northern coastal towns sustained their ethnically cosmopolitan workforce in the twentieth century.

Large numbers of Italians, Serbians and Croatians were attracted to the goldfields in search of work. Initially the men worked the more remote mines and the woodlines, while

many of their wives provided board and lodging for fellow countrymen. Some gravitated to Kalgoorlie-Boulder; most used their savings to establish themselves either back home or in small business ventures (market gardening, orchards, retailing) on the coast.

Many ex-diggers chose to start a new life on the land when the gold rushes ended. The lure of an independent living as farmers attracted them to the newly established Wheatbelt, which was a web of family farms stretching from Geraldton in the north, east to Merredin and south almost to Albany. These farming communities and the numerous small country towns they spawned were sustained by family labour, together with that of seasonal contract workers, some of them Nyoongar family groups. The process of rural pioneering was repeated with much less success in the 1920s group settlement scheme, which established the South-West's dairy industry but at great cost to the 'groupies' themselves, many of whom saw their dream of a secure independent farming life collapse in ruin.

Secondary industrial work became increasingly available with the population increase and urban expansion caused by the gold rushes. The railways provided work for many men, the Midland Railway Workshops becoming the state's largest industrial workplace and training ground for most wood and metal trade apprentices. WA, however, imported most of its skilled tradespeople, as it continues to do. Women found employment in food-processing factories and the clothing industry. The successive waves of migrants who have arrived since the Second World War—Central European displaced persons, Italians and other continental Europeans, Vietnamese refugees—have frequently done the jobs that native-born Western Australians avoided, while the continuing stream of British migrants, with English language skills, have fared better in the labour market. All have worked hard to ensure a better life for their children.

Child migrants who arrived in large numbers in the twentieth century were not integrated immediately into the workforce, as had been the case in the previous century. Nevertheless, the various schemes focused on educating boys for farm labouring and girls for domestic service, indicating that the labour shortages which had plagued the colony from its inception, continued until the later decades of the twentieth century, when technological change transformed farm work and social change spelled the demise of the live-in servant.

While mining remained a major sector in Western Australia's economy, its workforce continued to shrink as new technologies made it increasingly capital-intensive, although the economic booms fuelled by mineral resource development (in the 1960s and from the 1980s to the present) have also benefited other workers with scarce trade skills. The secondary industrial workforce reached its peak at 18 per cent of workers from the 1940s to 1960s, with Kwinana's heavy industrial complex, built in the early 1950s, the largest male workplace. The tertiary sector, where workers supply a great range of services, has grown in importance from the mid twentieth century, most workers seeking and finding clerical, administrative, technical, professional and management work. Much of this employment has been in large public- and private-sector bureaucracies. At the beginning of the twenty-first century, with major structural changes in this sector, workers are increasingly casualised and part-time. Self-employed contract workers grow in numbers, offering, for some, the ever-attractive option of 'being your own boss', and for others the only alternative to exclusion from the workforce altogether. **Lenore Layman**

See also: Aboriginal child labour; Aboriginal labour; Asian immigrants, nineteenth century; Children; Convicts; Domestic work; Gender; Migration; Mining and mineral resources; Parkhurst convicts; Pastoralism; Sex work (prostitution); Trade unions; Women on farms; Work, paid

Further reading: P. Hetherington, *Settlers, servants & slaves: Aboriginal and European children in nineteenth-century Western Australia* (2002); L. Layman and J. Goddard, with W. Wise and R. Ho, *Organise! A visual record of the Western Australian labour movement* (1988); Westralian History Group, *On this side: themes and issues in Western Australian history* (1985)

Workers' Art Guild The Workers' Art Guild caused a sensation in Perth between the wars. It was formed in 1935 by Katharine Susannah Prichard, Keith George and Maurice Lachberg as an adjunct to the United Front activities of the Movement Against War. The Guild concentrated mainly on theatrical production, but its brief was also to provide instruction and exhibition in the fine arts, writing, music and, for a short time, dance, ostensibly to working-class members. The left-wing plays directed by Keith George were progressive and propagandist, the performance aesthetic was experimental and unorthodox. There was initial widespread opposition to the Workers' Art Guild's work, but the Guild quickly became Perth's preeminent theatre company, thanks partly to Paul Hasluck's erudite and enthusiastic newspaper critiques. Although never directly affiliated with the Communist Party of Australia (as were its eastern states New Theatre counterparts), the influence of the Communist Party on the Workers' Art Guild intensified from 1939, which led to Keith George's departure. The loss of George and the outbreak of war led to the Guild's demise in 1942. Its luminaries included Prichard, the painters Harald Vike and the early Australian surrealist Herbert McClintock, the photographer Axel Poignant, the writer John Hepworth, and the architect John Oldham. A young Rolf Harris appeared in a number of Guild plays. **Dylan Hyde**

See also: Art, modern; Communist Party; Labour culture; Literary criticism; Pacifism; Peace movement; Theatre and drama

Further reading: D. Bromfield (ed.), *Aspects of Perth modernism 1929–1942* (1986); T. Craig, 'Radical and conservative theatre in Perth in the 1930s', in J. Gregory (ed.), *Western Australia between the wars 1919–1939: Studies in WA History*, 11 (1990); D. Hyde, 'We present this play not for your entertainment but for your chastening: the Workers' Art Guild, 1935–1942', *Papers in Labour History*, 18 (1997)

Workers' compensation is a statutory system that provides a range of payments to workers who suffer work-related injury and/or disease. Workers' compensation systems do not require workers to show that their employer was negligent in order to qualify for payments. These statutory arrangements are referred to as no-fault schemes and provide a range of payments to compensate for loss of earnings, medical and rehabilitation expenses and/or lump-sum payment for specific permanent impairments. These schemes make it compulsory for employers to take out relevant insurance coverage and allow workers to contest any adverse determinations in courts or tribunals. In WA, compensation payments are restricted to a prescribed amount that limits the employer's liability to statutory maximum levels. The statute which established the first workers' compensation scheme in WA was the *Workers' Compensation Act 1902 (WA)*, which provided limited compensation payments to a restricted range of workers who were employed in industries regarded as dangerous and injurious to health. WA was second only to South Australia in legislating for workers' compensation. The model adopted by WA and subsequently by most other states was based upon legislation passed by the British parliament, the *Workmen's Compensation Act 1987 (UK)*. In 1912 the *Workers' Compensation Act 1902 (WA)* was superseded by a more generous scheme that broadened the category of

workers who were covered by the scheme and increased the level of payments they could be awarded. The 1912 statute was later replaced by the *Workers' Compensation and Assistance Act 1981 (WA)*, renamed the *Workers' Compensation and Rehabilitation Act 1981 (WA)*. The latter Act provides a comprehensive range of payments to a broad group of workers. The legislation was significantly amended in the mid 1990s to reduce the range of payments available and to restrict the rights of workers in various respects. Until that time workers had been able to pursue concurrent claims for workers' compensation and common law claims for damages for negligence, but the legislation introduced in the 1990s restricted the rights of workers to pursue common law claims against their employers. In 2005 the Act was renamed the *Workers' Compensation and Injury Management Act 1981 (WA)*, to reflect the increasing emphasis on managed return of workers to work. At the same time additional support was made available for workers who had been absent from work for extended periods. **Robert Guthrie**

See also: Occupational diseases; Occupational safety; Work, paid

Workplace associations Associations of workers and of employers were established in colonial Western Australia as the economy developed in the 1880s, and particularly after the opening up of the goldfields in the 1890s. By the beginning of the twentieth century, unions in Perth's coastal region and in the goldfields were actively cooperating to achieve common ends. This led to the establishment of labour councils and development of a political wing. This arrangement, often tense, lasted until 1963 when the Australian Labor Party and the Trades and Labor Council became separate, though linked, entities.

A serious dispute between the association of steamship owners and the Lumpers'

Union in 1899 reflected growing industrial tensions, but, ironically, fuelled the push for compulsory arbitration legislation in 1900. The legalisation of unions followed. The advantages of legal standing encouraged unions to register with the Arbitration Court, and the threat of deregistration remained a potent weapon in the armoury of the Court and its successor through most of the twentieth century. The end of preference to unionists in 1980, as well as structural changes to the economy and the composition of the workforce, put pressure on unions generally. Amalgamations aimed at better use of resources and consolidation of common ends were only partially successful as some were based on political alignments. A raft of state legislation in the period 1993–97 increased pressure on unions, and overall membership levels fell significantly. Federally, the implementation of the *Workplace Relations Amendment (Work Choices) Act 2005*, with its prime objective of marginalising collective bargaining, has been challenged as unconstitutional and unfair by unions and others through protests, advertising campaigns, court action and appeals.

The development of industrial aims by collectives of employer associations was largely a reaction to unions. The Perth Chamber of Commerce and the Chamber of Manufactures in Fremantle, both established in 1890, were concerned principally with the protection of local industry and commerce from competition from other colonies. But the growth and consolidation of unions became a significant concern, and the establishment of the arbitration system early in the twentieth century was an impetus for employers to also organise collectively for the purpose of representing common industrial interests on an industry or trades basis. The establishment of the WA Employers' Federation (WAEF) in 1913 was supported by a number of trade and industry associations. A merger between the WAEF and the Chamber of Manufactures in 1975 to create the Confederation of WA

Industry resulted in a combined membership of approximately 4,000. In 1984 various chambers of commerce amalgamated, and further consolidation of employer associations occurred when this body merged with the Confederation in 1992 to form the Chamber of Commerce and Industry of WA. Other employer associations in Western Australia with a significant industrial-relations role operate in particular sectors such as the mining industry and hotels and hospitality industries. Like unions, employer associations in Western Australia are generally branches of federal structures.

There have been instances of significant cooperation between employer and worker organisations in Western Australia as well as conflict. In 1986, following tribunal decisions to establish compulsory superannuation in awards across Australia, the Trades and Labor Council (now UnionsWA) and the Confederation combined to set up an employers/unions superannuation fund. By 2004, Westscheme had become the largest private-sector superannuation fund in Western Australia, with over $1 billion under investment. **Sally Cawley**

See also: Chamber of Minerals and Energy; Conciliation and arbitration; Industrial relations; Trade unions; Trades and Labor Council; Work, paid; Workers
Further reading: B. L. Ellem, *Hard ground: unions in the Pilbara* (2004); B. Oliver, *Unity is strength: a history of the Australian Labor Party and Trades and Labor Council in Western Australia, 1899–1999* (2003); C. T. Stannage (ed.) *A New History of Western Australia* (1981)

World water-speed record In the final hours of daylight on 31 December 1964 on Lake Dumbleyung in Western Australia, Donald Campbell, British world water-speed record holder, set a new world record of 444.71 kilometres per hour (276.33 miles

Donald Campbell in Bluebird *on Lake Dumbleyung after breaking the world water speed record in 1964. Courtesy* West Australian *(A14061999006)*

per hour) in his jet-powered boat, *Bluebird K7*. It was the seventh and last time he broke the record. Campbell became the second person after his father, Sir Malcolm Campbell, to hold the world land and water-speed records simultaneously, and the first person to hold both records in the same calendar year. His land-speed record of 648.7 kilometres per hour (403.10 miles per hour) was set on the salt flats of Lake Eyre on 17 July 1964.

Lake Dumbleyung, located in the Shire of Dumbleyung, 267 kilometres south-east of Perth, is approximately 13 kilometres long and 6.5 kilometres wide. A memorial situated on Pussy Cat Hill overlooking the lake celebrates Donald Campbell's achievements.

Donald Campbell was born in Surrey, England, on 23 March 1921. He died in *Bluebird K7* on 4 January 1967 at Coniston Water, England, while attempting to beat his own water-speed record. **Virginia Rowland**

See also: Wheatbelt

Writers' centres and organisations in Western Australia include the Australian Writers' Guild (AWG), Australian Society of Authors (ASA), Society of Women Writers

(SWW), Fellowship of Australian Writers WA (FAWWA), Fremantle Children's Literature Centre (FCLC), writingWA, Katharine Susannah Prichard Writers' Centre (KSP), PEN International, and Peter Cowan Writers' Centre (PCWC). The oldest centre, the FAWWA, was established in 1938, and the most recent, PCWC, in 1995. Organisations such as KSP and FAWWA were established by local writers to provide for local needs, while others were created for specific purposes, such as the SWW for women writers, and the AWG for performance writers. AWG and the ASA are based in the eastern states but operate local programs. In 1993, writingWA (formerly the State Literature Office and the State Literature Centre) was established by the Australia Council in order to address gaps in provision, such as the comprehensive servicing of rural areas, although it has been funded primarily through ArtsWA. FAWWA, KSP and PCWC are housed in historic buildings that formerly belonged to eminent Western Australian writers Tom Collins (Joseph Furphy), Katharine Susannah Prichard and Edith Cowan, and membership for each group tends to be drawn from the suburbs closest to its base. **Julia Lawrinson**

See also: Book publishing; Fiction; Writers' festivals

Writers' festivals, as events to celebrate and promote Australian writers and writing, took various guises in Perth from the 1940s onwards. Their nature evolved as a function of location, organising body, and available funding.

From the late 1940s to the mid 1970s isolated events such as book displays or public readings by local writers presented Western Australian books and writers to the community. Working with limited resources of money and manpower, the Adult Education Board, The University of Western Australia,

and the Fellowship of Australian Writers WA (FAWWA) organised these festivals as part of cultural events as varied as Australian Literature Week, the St George's Cathedral Patronal Festival or early Festivals of Perth, from 1953 to 1972.

Major changes occurred from the mid 1970s, when writers' festivals in WA moved closer in style to the Adelaide Festivals, featuring a wider range of writers and writing. The establishment of the Fremantle Arts Centre and an injection of funding for the arts in the mid 1970s enabled more ambitious writers' festivals, with dedicated organising committees. While format and timing varied over the years, these festivals continued until the end of the 1990s.

In 2000 the Writers' Festival returned to the program of the renamed Perth International Arts Festival. Not financially successful, it required funding support from Curtin University in 2003, to present a new-image Writers' Festival under the banner *Words and Ideas.* Now an annual Perth-based event, the emphasis has broadened to include more non-fiction and more overseas writers. Rather than promoting local writers and their works, like the original events, the festivals of recent years promote the concept of 'the book' and its makers as purveyors of ideas.

One festival that has continued in both forms is Children's Book Week. Begun in 1946 by the FAWWA and other interested groups, with week-long book displays and Meet the Author sessions, it has, since 1966, grown steadily into a major annual statewide event, organised by the Children's Book Council and with generous funding support.

Since 1996 smaller writers' festivals have been held in several regional areas, most notably Albany, Geraldton and Kununurra. **Trisha Kotai-Ewers**

See also: Book groups; Festival of Perth; Literary criticism; Writers' centres and organisations

Wyndham, the most northerly town in Western Australia, was established on Cambridge Gulf during the Kimberley gold rush. Building materials, merchandise, merchants, publicans, and thousands of prospectors arrived by sea. The rush was short-lived, and by December 1886 some of the stores and hotels around Authon Landing were facing a bleak future.

A shortage of fresh water left most of the Wyndham townsite unused. People who visited the port usually stayed out at the Three Mile or the Six Mile on the Halls Creek road. Those places, and others further out, had water, hotels and stores. The Three Mile also had an Afghan community comprised mostly of carriers who worked with camels.

Wyndham's main function has been to service the East Kimberley cattle industry, the district's largest employer of European and Aboriginal labour. Live cattle exports date from the 1890s, and between 1919 and 1985 the Wyndham Meatworks provided seasonally operated facilities for slaughter, freezing, canning and export.

The number of buildings at the port fluctuated over time, but included a police station, courthouse, post office, hospital, school, residences and commercial premises. Structures that are now reminiscent of the early days include stores that were operated by Connor, Doherty and Durack, the Lee Tong family, and Fong Fan. The Wyndham Historical Society museum occupies the former courthouse/police station.

The Flying Doctor Service built its first Kimberley base near the hospital in 1935–36 but relocated to the Three Mile in 1950. Two decades later, after the government relocated the post office and the hospital, the Three Mile became known as Wyndham. The original settlement then became known as Old Wyndham Port. The police remained there, and the former hospital became a gaol (now decommissioned). Wyndham had a population of approximately 800 in 2006 and its port caters to pastoralists, mining companies and Ord River farmers. **Cathie Clement**

See also: Camels; Gold; Merchant shipping; Pastoralism; Royal Flying Doctor Service
Further reading: R. Birch, *Wyndham yella fella* (2003); K. Mellowship, *Wyndham: with a ton of salt* (2004); K. Keene and S. Mousalli (eds), *Students' views of Wyndham: an historical collection of stories and pictures from the past 100 years* (1986)

Y

Yachting in Western Australia has long been a significant activity both for cruising and racing. Sailing or motoring to Rottnest, for example, has been a leisure pastime since at least the 1920s, but river and offshore racing have had a longer history as an important competitive sport in WA.

Racing began with a river regatta in 1841. An annual event, this was followed in 1876 with the formation of the Perth Yacht Club (later granted royal charter). The Freshwater Bay Yacht Club (the only other WA yacht club to gain royal charter) was founded in 1896, Mounts Bay (1899), Claremont (1905) and Fremantle (1907) followed. Others include South of Perth (1946). These clubs are notable today because of the diversity of the activities they promote, including keel-boat river and offshore racing, dinghy sailing, long-distance cruising, power-boating, and offshore fishing.

The first organised inter-club power yacht race on the Swan River was held by Freshwater Bay Yacht Club in 1903. Nine launches competed over a nine-mile course

A sail yacht with wheels built to go across salt lakes at Mt Magnet c. early 1900s. Courtesy West Australian *(HIST1591)*

and Dr Burkitt's *Isis*, representing Perth Yacht Club, was the winner. In 2003 a Centenary Regatta was hosted by Royal Freshwater Bay Yacht Club to commemorate the event.

The clubs also organised races for growing classes of yachts on the Swan and offshore, as well as national and the occasional world series. Andy Roche was Western Australia's first national champion, winning the 14-foot title in Sydney in 1909. In the same year Ted Tomlinson won the 18-foot nationals, also in Sydney. Another famous pioneer, Jack Norris, won the 1929 nationals in his 16-foot skiff. Rolly Tasker was the first Australian to win an Olympic medal for yachting (silver, 12 Metres, 1956) and was Australia's first world champion (1958, Flying Dutchman). Other world champions include Syd Lodge (1969, Hornets), John Cassidy (1974, Fireballs; 1979, Flying Fifteens), Graham Lillingston (1984, Flying Fifteens), Paul Eldrid (1987, Mirrors), Colin Lovelady (1989, 1991, 1994, 1997, Laser Masters).

Other outstanding sailors include Tony Manford, five-times national champion in Dragons (1956, 1964, 1965, 1967, 1970), Peter Gilmour, match-racing world champion in 1991, and a small but increasing number of women. Anna Coxon won worlds in 1995 sailing a 420, while Belinda Stowell, fellow world champion, won gold sailing a 470 at the Sydney 2000 Olympics. Elsie Rechichi and Tessa Parkinson won gold at Beijing 2008 Olympics. In addition, WA sailors have raced in world-famous races such as the Fastnet, the Sydney to Hobart and various round-the-world races. Peter Packer won the Sydney–Hobart in 1975.

Offshore racing began in 1948, when fifteen wooden yachts ventured overnight down the coast to Bunbury. Today a whole series of ocean races attract fleets of fifty or more. The defence of the America's Cup (1987) and visits by the Whitbread races (1993, 1997) were arguably the highest-profile yachting events in WA. Significant too was the Parmelia race (1979), staged from England to Fremantle to mark the 150th anniversary of the founding of the Swan River colony. The race included a cruising division in which notable WA sailors took part, including Max Sheen in *Bluebell*, an SS34, and George Farquhar in *Shadow of Lothian*, a 32-foot yawl.

In 1981–82 Jon Sanders sailed the first of four non-stop solo circumnavigations in two different yachts, including an SS34, setting many world records. He was followed by his protégé David Dicks, also in an SS34, who at eighteen years of age became the youngest person to circumnavigate the globe.

These high-profile sailors are only a small part of yachting in WA, where hundreds of sailors travel to Rotto and the length of the coastline, including many who make the pilgrimage to the Kimberley, sometimes including a circumnavigation of Australia. Numerous others have made extensive journeys throughout the Indian and Pacific oceans.

Yachting's participants are catered for by some forty yacht clubs from the Ord River to Esperance, all registered with YAWA (the Yachting Association of WA), formed in 1950. In 2004 there were 74,314 boats registered with the Boating Industry Association (WA). This number includes 3,090 yachts, but the vast majority were power yachts, which can range from large launches to humble runabouts. **Ken Tregonning**

See also: America's Cup; Boat and ship building; Western Australian Olympic medallists (list)
Further reading: J. Bertrand, *Born to Win* (1985); R. Tough, *Yacht clubs of Western Australia* (1981); K. Tregonning, *The Royal Freshwater Bay Yacht Club 1896–1996* (1996)

Yirra Yaakin [Yir-*raarh Yaarh*-kin] means 'stand tall' in the language of the Nyoongar people, and Yirra Yaakin Nyoongar Theatre is Australia's leading Aboriginal theatre company. Established in 1993 with three staff—Paul MacPhail, Mandy Corunna and Peter Sibosado—and working initially as an Aboriginal youth theatre, Yirra Yaakin produced a body of projects developed in close collaboration with communities with high Aboriginal populations. These involved residencies in regional areas and a strong workshop program aimed at exposing, nurturing and presenting Aboriginal youth with non-sports-based forms of recreation. The company is committed to Aboriginal people's development in all aspects of arts practice.

In 1995 Yirra Yaakin Nyoongar Theatre was registered in accordance with the *Aboriginal Corporations Act*, and David Milroy was appointed as its first artistic director, Lynette Narkle as associate director and Dean Collard as chairperson. While the play *Wicked* is heralded as Yirra Yaakin's first theatre production, under the new artistic leadership the company developed a professional theatre program to run alongside the community cultural development agenda. Sam Cook was appointed as Executive Producer in 2003, a move away from the previous artistic director/general manager model.

Notable productions include *Runumuk* (1996), Yirra Yaakin's first Perth Festival show; *King Hit*, recipient of the 1998 WA Premier's book award; *Aliwa* (2000), the 2001 AWGIE award recipient; *Alice* (2002), Yirra Yaakin's first internationally toured work; and *Windmill Baby* (2005), winner of the 2003 Patrick White award and a number of other prestigious awards. Yirra Yaakin has fostered the emergence of a number of successful young Aboriginal actors, including

Kelton Pell and Kyle Morrison. In addition, Yirra Yaakin assisted in the development of Western Australia's first Indigenous choral group—the Yowarliny Choir, established in 1988.

Based in Perth, Yirra Yaakin has four main areas of activity. Creative activities concentrate on developing new works by emerging and established Aboriginal artists. All productions are written by Aboriginal writers, and where possible use Aboriginal directors, designers, musicians and production staff. Community skills development focuses on youth arts, local participation and events that are of major benefit to the Aboriginal community. A focus on organisational capacity looks at long-term growth and sustainability of Yirra Yaakin's aims and objectives, in financial partnerships, profile development or income-generating activity. Sector development activities concentrate on defining authentic Indigenous theatre internationally as an art form distinct from mainstream theatre. Yirra Yaakin drives this process nationally by coordinating the BLAKSTAGE alliance—National Indigenous theatre network; and internationally through Honouring Theatre, in concert with Native Earth in Canada and Taki Rua in New Zealand.

By its tenth year of operation Yirra Yaakin had produced nearly fifty new works, won seven major awards, employed 286 Aboriginal people and created fifty-one traineeships, and worked with audiences totalling over 300,000. **Sam Cook**

See also: Aboriginal theatre; Aboriginal writing; Theatre and drama

Young Australia League The Young Australia League (YAL) emerged in 1908 from the Young Australia Football League (YAFL), which had been established in 1905 in Perth and some country areas by John Joseph 'Boss' Simons, twenty-two-year-old office boy turned office manager. That year Simons was also foundation secretary of the WAFL. He sought to promote the 'Australian game' against what he saw as its subversion by soccer-loving schoolteachers from Great Britain. YAFL had provided schools with a competition, Australian flags and footballs, occasional country trips and booklets extolling patriotism and sportsmanship. It was a short step for the YAFL to became the YAL, with Simons its honorary director. 'Love, Service and Tolerance' was to be its creed, and 'Education by Travel' its guiding philosophy. The first YAL tour saw 400 WA schoolboys travelling in 1908 to view the US Navy's 'Great White Fleet' at Albany. The first interstate tour took place the following year. Girls were soon admitted, and in 1911, forty boys went to the US and Europe on the first international tour by any group of Australian youth. Music was now a central activity, along with theatre, bush skills and sport. YAL bands became an important part of public ceremony in many capitals. Silk flags and striking uniforms marked these public appearances. The bands also helped touring groups raise funds along the way, making it possible for poorer boys to travel.

Simons looked to be heading for an outstanding political career after catching Alfred Deakin's eye and also campaigning with John Curtin against conscription in 1917. He became Labor's MLA for East Perth in 1921. However, he soon resigned from parliament and the party after a dispute over a story in *The Call*, one of the newspapers in which he had an interest. The others were *The Mirror* and later *The Sunday Times*. This allowed him more time for the YAL, which flourished.

The YAL was soon calling itself the 'biggest boy and girl organisation in Australia'. It outstripped Baden-Powell's Boy Scouts, which had also started in 1908. By the 1920s YAL had branches in each mainland capital. Perth's new building opened in 1924 at 45 Murray Street, with facilities for a wide range of activities. The ballroom featured a huge stained-glass window depicting Galahad. A

Boys from the Young Australia League visit the bicycle factory of Bruce Small Pty Ltd, September 1938. Courtesy West Australian *(PP4796)*

new adventure and environment site began when Araluen, 'Simon's Valley of Inspiration', near the Canning River, opened in 1930. It was developed as a botanical garden with funds raised easily by Simons with the help of an enthusiastic network of former YAL boys from business and public life.

When Simons died in 1948—while still Honorary Director—110,000 young people had signed with the League. By 1965 there had been thirty-five overseas tours and hundreds within Australia, but schools were starting to promote their own tours. Membership fell catastrophically in the 1980s. Araluen's botanical garden (noted for its tulips and deciduous trees mixed with native species) and the Murray Street building were sold in 1985. However, a massive community backlash against the prospect of a housing development on the Araluen site caused the state government to buy the site for public use. In WA, Camp Simons, a large holiday camp on the Canning River, and the YAL Museum in Perth still survive. In 2008 Perth was still holding on to its small membership.
Ron Davidson

See also: Australian Rules; Band music; *Mirror*; Service clubs and organisations; *Sunday Times*; Youth movements
Further reading: V. Courtney, *The life story*

of J. J. Simons: founder of the Young Australia League* (1961); R. Davidson, *High jinks at the hot pool: Mirror reflects the life of a city* (1994)

Young Men's Christian Association (YMCA) The Young Men's Christian Association (YMCA) was founded in the UK in 1844 with the aim of improving the spiritual condition of young working men. Meetings were first held in Perth in 1869, but ongoing YMCA activities were not fully implemented until 1907 when, encouraged by associations in other states, the YMCA was once more revived in Perth.

From 1909, headquarters (opened 1910) with a gymnasium and indoor swimming pool were established at a donated site in Murray Street, extended in the 1920s to the adjacent Hotel Westralia (used as a hostel) and Cremorne Theatre and Gardens facilities. Activities ranging across the spiritual, educational and physical included a brass band, public speaking and annual camps. A Katanning branch was established in 1913. From 1914, the YMCA set up social facilities, including letter-writing tents and concerts for soldiers at military camps such as Greenmount and Blackboy Hill. By 1929 membership had reached one thousand.

During the Second World War, the YMCA again played an active role in supporting troops in army camps, and many of its own members joined up. The YMCA also worked in prisoner of war camps. After the war, the YMCA hostel housed a stream of European migrants as well as South-East Asian students, YMCA members in their own countries.

Fremantle YMCA activities began in 1946 (officially opened 1947), and the centre soon commanded nearly one-fifth of the YMCA's membership of 1,300. Eastern Goldfields YMCA was established in 1948. Activities—all alcohol-free—focused on Bible study and fellowship, basketball, volleyball, hockey, athletics, gymnastics, public

speaking and debating, photography and leadership. In addition to the 1,700 members on the books in 1954, many thousands more made use of YMCA facilities and activities. From 1956 young women were accepted as associate members. The YMCA's Camp Pickering (named for Ernest Pickering, the association's general secretary from 1927 to 1952) opened at Stoneville in 1958 on a site owned and developed by the YMCA for over thirty years. YMCA centres opened across the suburbs (Victoria Park, Melville, Scarborough, Claremont, Bentley, South Perth, Armadale) and by 1963 membership totalled almost six thousand across the state.

The hostel's facilities and the annual Rottnest camp, a regular event since 1921, remained institutions. But the 1980s was a decade of change: Fremantle folded in 1981 due to financial strain; the YMCA lost its Rottnest site in 1983; and the YMCA generally faced monetary problems. The YMCA began to cater more directly for inner-city youth in need with their Murray Street night shelter, and drop-in centres were established at Coolbellup, Bentley, Armadale and Fremantle. The YMCA also became involved in Aboriginal outreach. A further new direction was the opening of childcare facilities for working parents. The YMCA became involved with youth rehabilitation and from the early 1990s, in concert with the state government, worked in mediation services for youth. In 1991 the YMCA ceased its eighty-year relationship with its premises in Murray Street and moved to new headquarters in Short Street. In 2007 facilities included ten recreational centres (metropolitan, Port Hedland and Kojonup), twenty-eight childcare centres, three youth centres (one mobile), mobile support centres in the Great Southern and the Wheatbelt, and a hostel in Goderich Street. **Jan Gothard**

See also: Young Women's Christian Association (YWCA); Youth movements
Further reading: T. Austen, *Something worthwhile: a history of the Perth YMCA* (1992)

Young Women's Christian Association (YWCA) The Young Women's Christian Association (YWCA) was founded in Britain in 1855. Some meetings were held in Perth as early as the 1870s, but continuing work probably began in Northam in 1902 under Miss Eva Edmeades. The YWCA officially opened in Perth in 1920 with the support of the National Association in Sydney (with which the Perth YWCA affiliated in 1922), the Women's Service Guild and members of the Congregational Church. The governor's wife was traditionally a patron. A non-profit Christian social movement dedicated to the service of women, the Perth YWCA's earliest social role was providing safe, supervised long-term accommodation at its hostel Gledwyn, 16 St Georges Terrace (opened in 1920 and in service until 1962), for young single women working and studying in the city. Northam foundered and opportunities to establish other regional YWCAs were not pursued vigorously in the early years; however, the city YWCA's 900 members participated in literary, cultural, sporting, citizenship and social activities, some co-ed. The YWCA was also ahead of its time in offering its members lectures on sex education in 1926.

The Depression led to a fall in the donations that largely financed the organisation, but the YWCA nonetheless expanded its branches to Midland and Osborne Park in the 1930s and also ran sewing classes for young unemployed women. In 1935 it purchased a permanent booth (still owned today) at the Royal Perth Show, to continue the major fundraising work begun in 1924 of serving teas and refreshment. During the war, the YWCA provided accommodation, services and amenities to servicewomen on leave and, with the YMCA, entertainment for soldiers.

Growth continued, and in the postwar years, branches extended through the northern suburbs and as far as Roleystone. Other activities included meeting British and (from 1953) Japanese war brides and European

migrants in transit through Fremantle, and providing accommodation for migrant women coming to work in the city from the Northam migrant camp. In 1952 the YWCA opened the newly purchased Lady Gowrie Hostel at 15 Ord Street, West Perth. Meeting the needs of migrant women remained an important role for the YWCA; in the 1970s, for example, hostel facilities were made available to newly arriving young Yugoslav women. However, in 1974, in line with changing community needs, the YWCA largely ceased the hostel work that had been the mainstay of its activities since the 1920s and leased the former Lady Gowrie Hostel to the state government for drug rehabilitation work.

In its more recent work the YWCA has been involved in pioneering a number of activities that have subsequently been taken on by other agencies. Examples include: Big Brother and Big Sister programs; step family support; and the House for Lone Women (an early refuge for single women in Perth). In these activities the YWCA has worked closely with both government bodies and NGOs. Other community services include provision of a clothes lending library for the unemployed, outreach work with Aboriginal communities and young Aboriginal women in Perth, and swimming and water therapy for women recovering from breast surgery. The YWCA continues to offer its members social, physical and cultural activities through club and fellowship activities; however, membership has dropped over the years as young working women turn to community centres and TAFE. In 2007 the YWCA had eighty members and just one branch, in Perth. **Jan Gothard**

See also: Guides Western Australia; Migrant reception; Young Men's Christian Association (YMCA); Youth movements
Further reading: M. M. Thomas, *Y women of Perth: a history of the Young Women's Christian Association in Perth, Western Australia from 1920–1984* (1985)

Youth culture is a vexed term. It is used in two ways. One meaning identifies the general culture of young people, the attitudes, clothes, amusements and so forth of youth. The other meaning refers to the formation of cultural groupings *within* youth. Thus, in Australia, the term can refer to groups such as the bodgies and widgies, sharpies, and more recent groups such as ravers and b-boys. Used in this sense, the term is often put into the plural: youth cultures. Youth cultures are generally associated in some way with the appropriation and reworking of mass-consumption goods. Linking these two ways of thinking about what is meant by youth culture is the category of the 'teenager'. This idea developed in the United States during the interwar period and was introduced to Australia during the 1950s. The teenager is often thought of as the young person who takes pleasure in consumption and who often pushes the social boundaries associated with drugs and sex, and sometimes also petty crime such as car theft, shoplifting and vandalism. To date there has been little specific research into youth culture in either sense in Western Australia, but some examples of the behaviour of young people provide an indication of general trends.

In the 1920s, in rural Guildford, there is evidence of 'neighbourhood gangs' of local boys who took part in borderline criminal acts such as stealing fruit and vegetables, petty vandalism, and skirmishes with other, similar groups. These gangs, composed of working-class boys, would have been relatively informal groupings. Meanwhile, in Perth, the more daring middle-class youth went to places like the Hot Pool at Dalkeith and the riverfront at Nedlands, which had the name of 'Naughty Nedlands': 'people used to come from *other suburbs* … They used to have … "necking parties" down there, and a few drinks and a few high jinks.'

Another important site for working-class youth during the 1920s was White City, a fairground complex on the river at the bottom of William Street. At one point an open-air

dance floor was put in and, according to Paul Hasluck's reminiscences, 'it became a place where the smart boys would go in the hope of "picking up a sheila," and perhaps some sheilas would go in the hope of being picked up'. By the late 1920s, the goings-on at White City, which also included gambling, led to the Labor government closing it down in 1929 after many representations from religious and moral groups. The theme of middle-class respectability and political and police pressure on what is considered deviant behaviour runs strongly through Perth history.

In February 1941 more than two thousand American troops were stationed in Perth, bringing with them the pleasures of American consumer goods and the jitterbug. Perth's first youth culture, in the sense of bodgies and widgies, evolved during the mid 1950s, influenced by the movement of this name in Sydney and Melbourne. Primarily working-class boys and girls, they dressed in snappy American styles and danced to rock 'n' roll. Bill Haley and the Comets' 'Rock Around the Clock' was released in the United States in 1955 and was used over the credits of the teen 'juvenile delinquency' film *Blackboard Jungle*, released that same year. Don Errichetti, an ex-US marine, who had bought the ice-cream and burger kiosk on the corner of Manning Street and The Esplanade, Scarborough, built an open-air dance floor where he and his wife

Doing the Stomp at the Snake Pit on Scarborough Beach on a warm night, November 1964. Courtesy West Australian (B8383)

would play rock 'n' roll. Known informally as the Snake Pit, it became the gathering place for Perth's bodgies and widgies.

Perth's remoteness meant that cultural developments impacted later than elsewhere up to the mid 1970s, when the effects of a national television network and, a little later, more affordable and faster air travel, began to integrate Perth more fully into Australian and international cultural transformations. The impact of the Vietnam War and the moratorium movement of the late 1960s was reflected in the development of a folk scene in Perth, based in coffee lounges like the Shiralee in Howard Street. In the mid 1970s, and culminating in the release of his first album, *Mug's Game*, in 1978, Dave Warner established a very big following among suburban youth for his ambivalent celebration of Perth suburbia. Warner, and slightly later punk bands such as the Cheap Nasties and the Victims, modelled more on English power-pop than the American alternative rock, such as Iggy and the Stooges and the MC5, which influenced eastern states bands, would play pubs such as the Shenton Park, the Governor Broome, and clubs such as Hernando's Hideaway.

During the 1970s and 1980s it became apparent that, among second-generation migrant youth in particular, ethnically identified youth cultures were developing. Research has been done on Italo-Australian youth establishing their tendency to go out within their own networks. Other work on the evolution of the English-originated skinhead youth culture in Perth has shown how this culture has been used as a way of asserting Englishness. To date, little research has been done on Aboriginal youth culture in WA, or on youth culture outside the metropolitan area.

Through the 1990s and 2000s, as Perth became more fully a part of an increasingly general Western, if not global, youth cultural order, so the city developed its own inflections on Goth, the English rave scene, and American hip-hop. **Jon Stratton**

See also: Children; Class; Drinking; Hot Pool; Isolation; Night-life; Peace movement; Popular music; Rock music; Second World War; Social change; USA, relations with; Youth movements

Further reading: L. Baldassar, 'Marias and marriage: ethnicity, gender and sexuality among Italo-Australian youth in Perth', *Journal of sociology*, 35, 1 (1999); T. Brabazon (ed.), *Liverpool of the south seas: Perth and its popular music* (2005); J. Carter, 'Childhood and environment in a working-class suburb of Perth, 1900–1930, in P. Hetherington (ed.), *Childhood and society in Western Australia* (1988); J. Stratton, 'Pissed on another planet: the Perth sound of the '70s and '80s', *Perfect Beat*, 7, 2 (2005)

Youth movements Transition from childhood to adult status was short for most children in the early Swan River colony, as all had to pitch in to gain an economic foothold. But the arrival of orphan and convict children imported from England as cheap labour—euphemistically described in enabling legislation as 'a certain class of juvenile immigrants'—together with an increase in the number of children of working-class and gold-rush parents, eventually led to the emergence by the 1901 census of the concept of 'adolescence'—those aged from fourteen to twenty-one.

Meanwhile, during the nineteenth century, the destiny of most working-class children was absorption into apprenticeships, while Aboriginal adolescents in European employment were generally used as near-slave labour. Some protection was early afforded them by religious institutions such as the Wesleyan Mission School (1840) and the New Norcia settlement (1846). From 1874, delinquent and 'bastard' children were drafted into orphanages and Industrial Schools, and such measures as the *Larrikin Act* of 1880 dealt harshly with youth at leisure. More positive social interventions were slow in emerging.

Schools were one kind of intervention, but it was not until 1871 that compulsory education was put on the books, nor until the 1890s that provisions were made for public secondary schooling.

Gradually, youth-specific services began to emerge in the voluntary sector, mostly on the lines of overseas models. One of the earliest was the Young Men's Christian Association. Founded in Britain, it was first brought to Western Australia in the late 1860s. For Protestant youth, peer-group consciousness was strengthened through the introduction in 1889 of Christian Endeavour, founded eight years previously in the USA by Dr Francis Clark, who visited WA in 1904. The movement promoted warm interactions between churches in a variety of Bible-based, musical and other social activities. The needs of working-class Anglican girls were met by the Girls' Friendly Society, founded in 1888.

In 1890, only five years after the Boys' Brigade began in Scotland, a company was formed in Perth Wesley Church. Boys wore uniform and engaged in a rounded program of drills, mental and physical skills development, and faith education. Thirteen companies were operating in 2004, mostly in Baptist and Uniting churches. From different origins, but with similar aims, a company of the 'Girls' Life Brigade' was formed in rural Wyalkatchem in 1927. A national merger with similar organisations in 1964 led to the adoption of the currently used generic title 'Girls' Brigade'.

The Boy Scouts and Girl Guides movements were established in WA in 1908 and 1910 respectively. Both movements continue to have a strong following. In 1920 a WA branch of the YWCA was set up and showed an early interest in overcoming girls' social disadvantage. Meanwhile, awareness of rural disadvantage led to the formation of 'Junior Farmers' in 1935, which elected in the mid 1970s to signal its concern for non-farming youth as well by adopting the name 'Rural Youth'. From 1913 to 1959, Kingsley

Fairbridge Farm School in Pinjarra was used to train 1,200 British child migrants for work in rural areas.

Governments rarely addressed issues of 'youth policy' as such until after the Second World War. But legislation affecting youth had never been absent, if only to contain offenders, as in the case of the reformatory for juveniles established on Rottnest Island in the 1880s. In 1911 the federal government introduced compulsory military training for boys aged between fourteen and eighteen, with the more sobering purpose of bolstering national defence against the 'Asian hordes' to the north. It was described as an extension of the (voluntary) school cadet schemes, which had previously been operating mainly in elite private boys' schools (though a WA Public Schools Cadet Force had been established in 1903).

Political will to sustain this program waned after the First World War and lapsed in the Depression. But then another threat of overseas conflict emerged in the 1930s, prompting the Menzies federal government to fund a National Fitness program from which funding was withdrawn once the war was won! The state government of the time, however, chose to sustain the program, first through the National Fitness Council (1945), and later through the wider brief of the Community Recreation Council (1973–78). Subsequently grants were made available to voluntary groups through the new Department of Youth, Sport and Recreation.

Meanwhile, the churches were diversifying their provisions for youth. Between the wars, the Church of England Boys' Society (CEBS) and the Church of England Girls' Society (CEGS) expanded Anglican provision. After the Second World War there was a proliferation in other denominations of 'four-square' programs (physical, social, intellectual, spiritual), such as the Baptist Youth Fellowship (BYF), Methodist (MYF), and Presbyterian (PFA). Young Christian Workers (YCW) was introduced to WA in 1942, with a strong concern for social justice. Another new

arrival in 1947 was the Scripture Union, an interdenominational agency which continues to sponsor voluntary activities in schools, camps, neighbourhoods and holiday beach resorts.

Migrants from new ethnic groups also developed youth services, such as the Hellenic Progressive Association of Athena (1951). The Police Boys Club was formed through police initiative in 1940, later expanding into Police and Citizens Youth Clubs to accommodate female membership and broaden their services through such activities as blue-light disco, for youth considered at risk. In 1999 there were twenty-seven branches, from Broome to Albany.

Less fortunate have been Aboriginal youth, many of whom were taken from their families as children and institutionalised. More recent efforts to help those at risk to recover some sense of cultural and tribal identity have had some success, but they still figure disproportionately in the statistics of criminal detention. While specifically Aboriginal youth movements have not emerged, general sporting activities such as football have been seen as providing affirmation, and some players have achieved iconic status in recent years.

Postwar economic boom gave way to recession in the 1970s, and a new range of voluntary youth services appeared to meet problems of unemployment, homelessness and drug addiction. From Christian roots came Fusion, Jesus People, Teen Challenge, and the telephone counselling service Telateen. The West Australian Temperance Alliance of earlier times embraced a new image in 1992 as 'Drug ARM', offering rehabilitation and skills training for street youth. PICYS, the Perth Inner City Youth Service, was formed in 1980 and continues to coordinate welfare services to young people in the inner-city area.

Increasing government involvement has raised the question of whether 'containment' or 'empowerment' is the primary motivation.

The Burke state Labor government set up a task force in 1983 to report on youth affairs, which led, two years later, to the creation of a Youth Affairs Bureau, empowered to disburse grants and initiate new services. But in 1990 the Lawrence Labor government disbanded it. Later governments have obliged all grant applicants to apply through the Lotteries Commission, effectively also displacing the mediation of the voluntary sector Youth Affairs Council. Meanwhile, there has been renewed government interest in school cadets and in broadening their scope beyond exclusively military avenues. **Brian V. Hill**

See also: Cadets; Children; Education; Fairbridge Farm; Girls Friendly Society; Guides Western Australia; Lotteries; Migrant ethnic associations; Missions; National Fitness Council; Orphanages; Reformatories; Scouting; Stolen generations; Young Australia League; Young Men's Christian Association (YMCA); Young Women's Christian Association (YWCA)
Further reading: Q. Beresford and S. Robertson, 'Viewed with uncertainty: co-ordination in youth affairs in Western Australia', *Youth studies Australia,* 14, 2 (1995); R. K. Gray, *The first forty years: the National Fitness and Community Recreation Councils of Western Australia, 1939–1978* (1982); D. Pyvis, 'The exploitation of youth: an alternative history of youth policy in Australia', PhD thesis, Murdoch University (1991); Youth Task Force, *Co-ordination of youth affairs in Western Australia: a report of the Youth Task Force* (1983)

Youth theatre is dedicated to performance for, with and by young people from adolescence to early adulthood. It embraces performances by schools, youth theatre companies, professional provider companies, public pageantry and practice-based Theatre Arts curricula at schools and universities. Its forms are transient, being shaped across time by individuals, institutions, community interests and available resources.

Youth theatre in nineteenth-century Western Australia was mainly associated with social and moral aspects of education, and with religious affiliation. There are records from the 1860s onwards of student performances at Perth's Christian Brothers School, Commercial School, High School and Bishop's Girls' College. Religious associations such as the Catholic Young Men's Society, the Children of Mary and the Church of England Young Men's Association presented plays as 'rational entertainment' for the young. Young people also performed in public pageants and variety shows in Perth and the regions.

Performance was increasingly valued as education during the first half of the twentieth century. The University Dramatic Society (1917–) fostered actors such as Molly Ick, later associated with the Alan Wilkie Shakespearean Company and the Perth Repertory Club; the drama critic Paul Hasluck ('Polygon'); and young playwrights Leslie Rees and Dorothy Hewett. Sister Mary Coleman and Lily Kavanagh, independent teachers of elocution, set notable young performers on their careers. St Hilda's, Perth Modern School, Scotch College, Methodist Ladies College and others formed student dramatic societies during the 1930s. The amateur Shakespeare Club, founded c. 1930 and guided for many years by Anita Le Tessier and Joyce Riley, was the major provider of syllabus-related productions.

Youth theatre proliferated in the second half of the twentieth century, due in part to young people's desire to assert their theatre independence and to contribute to society through performance. Fremantle's Desperate Measures Theatre registered political protest through agitprop street theatre in the 1970s. The present Deckchair Theatre Company began life as a youth cooperative in 1983. SWY Theatre Company, founded by Penny Why and performance arts graduates of John Curtin Senior High School in 1983, provided youth theatre until reconstituted as the Perth

Theatre Company in 1994. This company continues to support young writers. The impetus towards youth theatre in the 1970s and 1980s impacted significantly on theatre development in WA.

Secondary schools and colleges, many of which now have drama facilities, continue to produce student performances. The Departments of Education and Culture and the Arts promote theatre practitioner residencies in schools. John Curtin College of the Arts (until 2000, John Curtin Senior High School) offers specialist theatre training to secondary students, and the Western Australian Academy of Performing Arts at Edith Cowan University offers vocational training at tertiary level.

Both the Western Australian Youth Theatre Company (founded in 1983 and reconstituted from the Leeming Youth Theatre Company in 1998) and Midnite Youth Theatre Company (founded by Anthony Howes at Christ Church Grammar School in 1987) have toured internationally. Tertiary students produce coursework and dramatic society performances at Curtin University of Technology, Edith Cowan University, Murdoch University and The University of Western Australia.

Government project funding has rationalised provision of theatre for youth since the 1970s. Barking Gecko (1993–), formerly the TIE company Acting Out (1985–92), offers web programs for young writers. Yirra Yaakin Nyoongar Theatre Company (1993–) fosters young Indigenous performers and writers. Black Swan Theatre Company's Be Active BSX program (2001–) encourages innovative youth theatre. Both Bizircus (1990–) and Annie Stainer's Total Theatre (2002–) include young people in their hybrid performance skills training programs and performances. Regional programs have generated Albany's Southern Edge Arts (1985–), Bunbury's MESH (1985–) and Geraldton's Creative Works Youth Theatre (1998–). Youth initiatives such as Broken Limb (1992–) support young practitioners, while Class Act Theatre (1994–) tours performances to schools. The Independent Theatre Association conducts an annual Youth Fest for amateur performers. **Bill Dunstone**

See also: Arts policy; Children's theatre; Theatre and drama; WA Academy of Performing Arts; Yirra Yaakin

Z

Zoological gardens In 1898, Perth's Zoological Gardens (Perth Zoo) opened under the direction of Ernest Le Souef, a member of a prominent Australian family involved in the early development of zoos in this country. Ernest's father, Albert Le Souef, was the first director of Melbourne Zoological Gardens from 1860 to 1901 and chose the site at South Perth. Andrew Wilkie, who was head gardener at Melbourne Zoo, was sent to Perth to design and construct the zoological gardens with the assistance of local gardener Harry Steedman. J. W. Hackett, who was then president of the Western Australian Acclimatisation Committee, supervised Le Souef and the zoo functioned as a holding site for some of the committee's experiments. The collection of animals for public exhibition was predominantly sourced from the eastern states, supplemented by the international trade in animals, including official expeditions to trading centres such as Singapore. Some ship captains assisted with collecting and transporting animals through Australian ports in conjunction with their other business. Animals were also received as gifts from dignitaries in a range of countries, particularly colonies of the British Empire. During the 1920s, Perth Zoo was a member of the Australian Zoological Control Board administered by Taronga Zoo in Sydney, which sponsored consignments of native animals shipped from Australia to America and Europe for the purposes of exchange.

From 1932, after the financially straitened years of the Depression, the zoo was administered by the State Gardens Board under Louis Edward Shapcott. Shapcott was also responsible for the development of the A-class reserve at Yanchep, where native flora and fauna were protected, into pleasure grounds during the 1930s. Philanthropist Sir Charles McNess sponsored the employment of subsistence workers to construct roads and buildings and to dredge Yanchep Lake. These grounds became a popular holiday destination. Breeding stock of the koala was imported into the Park in 1938 and thousands of eucalyptus trees were planted to provide them with appropriate food.

Perth Zoo has undergone redevelopment in line with demands by the public and scientific communities for improved conditions of captivity that reflect changing relationships between people and animals. As a result, enclosures have altered from the bars and concrete that facilitated the direct gaze of the audience to more naturalistic designs that often include vegetation. This

Children riding on the elephant at South Perth Zoo, December 1943. Courtesy West Australian *(PP1918)*

trend, combined with more sophisticated understandings of animal behaviour, has been international in its scope. At Perth Zoo, a major redevelopment program was initiated in 1968, just after the appointment of the new director, Tom Spence, who had managed his own private zoo in Scotland. Naturalistic enclosures, such as the one which now houses the Asian elephants, continue to hold favour.

Like fauna reserves and national parks, Perth Zoo has had a significant public educational role in projects of wildlife conservation. Breeding programs have been successful for endangered indigenous and exotic species such as the chuditch (*Dasyurus geoffroii*) and the Sumatran orang-utan (*Pongo abelii*). However, as is the case throughout the world, habitat destruction makes the task of improving animal populations difficult. Many zoos, including Perth, have shifted some of the focus of their conservation efforts to outreach and in situ programs.

Currently, the Perth Zoo receives approximately 500,000 visitors annually. Wildlife parks located throughout the state are also popular attractions. These include the Cohunu Koala Park, the Armadale Reptile Centre, Caversham Wildlife Park and Marapana Wildlife Park. **Natalie Lloyd**

See also: Acclimatisation; Animal welfare; Conservation and environmentalism; National parks; Tourism

Further reading: L. Cocks, *Orangutans and their battle for survival* (2002); C. F. H. Jenkins, *The Noah's Ark syndrome: one hundred years of acclimatization and zoo development in Australia* (1977); C. F. H. Jenkins, *Yanchep National Park: a guide to its flora and fauna* (1971); N. A. Mazur, *After the ark?: environmental policy making and the zoo* (2001)

Zoology (from Gk. *zoon*, animal; *logos*, discourse) is the study of the structure and function, behaviour, fossil record, diversity and classification, and distributions of animals. This definition suggests a scientific approach, but before European settlement Aboriginal peoples had extensive knowledge of the diversity and habits of local fauna. The rich zoological lore of the people from the Great Sandy Desert has been documented by Pat Lowe (2002); her insights into the wealth of this lore paint an awareness of the scope for fruitful comparative research among the tribes of Australian Aborigines. Some Aboriginal terms are widely used in the Western Australian vernacular: gilgie, koonac and marron for local freshwater crayfish, for example.

Two major scientific phases of zoology in WA can be discerned. The first, a systematics-only phase (including natural history observations on animal species, their habitats, behaviour and distributions), progressed through the return of specimens to Europe for description there. The current phase is characterised by a broad approach with a diverse array of sub-disciplines, notably experimental zoology, conservation, ecology and evolution, genetics, parasitology and physiology, in addition to systematics.

Scientific study of Western Australian fauna commenced with European exploration of the coastline, particularly with two expeditions in 1801, notably that of Nicolas Baudin (to Geographe Bay and Shark Bay and in 1803 to King George Sound), but also of Matthew Flinders, whose expeditions made extensive collections of species new to science and achieved valuable observations of hitherto scantly studied animals: of bioluminescence, morphology and swimming behaviour of jellyfish, for example. (Prior to this, Dampier, in 1688 and 1699, fascinated by the unusual fauna, made collections of lizards, molluscs and fish from along the north-west coast.) Baudin, Flinders and colleagues, imbued with the scientific, political and commercial ideals of the Enlightenment, delighted in attempting to understand world structures and functions through reasoned

thinking applied to empirical observation. Although the expeditions of both Baudin and Flinders carried illustrators, the specimens collected were returned to Europe for description. The Baudin expedition was beset by acrimony, resulting in a substantial delay before the zoological results were published; indeed, the zoologist François Péron died before completing his account of the results (although authority for two species of note, the banded hare wallaby, *Lagostrophus fasciatus*, and the tiger shark, *Galeocerdo cuvieri*, rests in part with him). The expedition's scientific achievements consequently did not receive contemporary recognition, but this was redressed in part by the France-Australe Bicentenary Expedition to Shark Bay in July 1988. Nevertheless, specimens were made available for other noted zoologists to describe, for example Georges Cuvier (vertebrates) and Jean-Baptiste de Lamarck (corals, molluscs), and the beautiful drawings of specimens by Charles-Alexander Lesueur now reside in the Muséum d'Histoire Naturelle in Le Havre. One connection between the French zoologists of the 1800s and the modern phase is pertinent: the quokka, *Setonix brachyurus*, the small wallaby described by Quoy and Gaimard in 1830, has been used as the marsupial model for much research, and training of numerous postgraduate students.

The transition from overseas systematic studies of the local fauna to locally based research coincided with the building and provision of suitable facilities in Perth for zoological research. The European phase of zoology in WA essentially ended with the publication of *Die Fauna Sudwest-Australiens*, covering a wide variety of animal groups, edited by W. Michaelsen and R. Hartmeyer (1907–30).

The Foundation Professor in Biology (1913–20) at The University of Western Australia (UWA), W. J. Dakin, was widely respected as an adroit interpreter of science for the non-scientist. His *Australian Seashores: A guide for the beachlover, naturalist, shore-fisherman and the student* (1952) long served as the classic introduction to Australian sea life. Dakin made important contributions to knowledge of the local fauna, but his European zoological origins and lore are evident in, for example, placing the shrimps abundant in rivers of the south-west corner of the state in the genus *Palaemonetes*, thereby creating a zoogeographical anomaly: the local form represents a new genus. While holding the Chair in Biology (1921–47), G. E. Nicholls' research interests focused on the systematics of frogs and Crustacea, particularly of the Gondwanic relicts, the Phreatoicoidea (Isopoda).

The experimental phase of zoology in the state commenced abruptly with the appointment of H. 'Harry' Waring as Foundation Chair in Zoology (1948–75) at UWA. Waring introduced an experimental approach, using the quokka as a model marsupial, and dispensed with the nonsense perpetrated in 1903 by Frank Baker (Superintendent of the Washington DC Zoo), and widely promulgated, that 'marsupials were the stupidest animals in the world'. The Chair in Zoology passed to S. D. Bradshaw (1976–2004), whose endocrinological and ecophysiological studies on a wide range of vertebrates, including collaboration with his wife on the honey possum *Tarsipes rostratus* Gervais and Verreaux, also enhanced conservation of the species. Thus, Bradshaw, with A. Burbidge (CALM), G. Kuchling and the Perth Zoo, all collaborated in the rescue of the then most-critically endangered Australian vertebrate, the western swamp tortoise *Pseudemydura umbrina* Siebenrock, from extinction. A. R. Main, awarded a Personal Chair in Zoology (1967–83), has made major contributions in studies on marsupials and frogs, and in the ecology and conservation of WA fauna.

UWA's Department of Zoology has had a major influence on the development of zoology in the state through its role in teaching and research, and links with government. Its

influence may be gauged by the numbers of postgraduate students who have progressed to distinguished careers in zoology, in academia interstate and overseas, and to local government departments.

Active zoological research pursued on a broad range of faunal groups through other WA universities, Murdoch, Curtin and Edith Cowan, and through the aegis of state (Perth Zoo, WA Museum) and Commonwealth government agencies (CSIRO), is significant in terms of quantity and excellence, and contributes importantly to conservation of a range of species, habitats, and the state's faunal resources. Two programs conducted principally through state agencies warrant particular mention. The applied research of Fisheries WA, directed towards managing the western rock lobster (*Panulirus cygnus* George) fishery, is significant by virtue of the commercial and social values of the fishery. The Department of Conservation & Land Management program, designed to retrieve the numbat *Myrmecobius fasciatus* Waterhouse, a symbol on the States emblem, from extinction is also particularly noteworthy.

As befits the size of a state harbouring a rich fauna that has survived only through the evolution of diverse adaptations to tough environments, the challenge to unravel the web of zoological processes in WA has attracted some very strong and fascinating personalities. The achievement of lasting significance of the three central figures—Waring, Bradshaw and Main—all polymaths with a reach into the state's wider intellectual life, has been to set a benchmark for field and laboratory-based studies, by introducing new paradigms for zoology which underpin the sound conservation of the diverse and fascinating fauna of this state. **Brenton Knott**

See also: British maritime exploration; Collections, fauna; Dutch maritime exploration; French maritime exploration; State emblems
Further reading: P. F. Berry, S. D. Bradshaw and B. R. Wilson (eds), *Research in Shark Bay: Report of the France-Australe Bicentenary Expedition Committee* (1990); J. Fornasiero, P. Monteath and J. West-Sooby, *Encountering Terra Australis* (2004); P. Lowe, *Hunters and trackers of the Australian desert* (2002)

Governors of Western Australia from 1828

1828–1832	Captain James Stirling (afterwards Sir James)*
1832–1839	Captain James Stirling (afterwards Sir James)
1839–1846	John Hutt
1846–1847	Lieutenant-Colonel Andrew Clarke
1848–1855	Captain Charles Fitzgerald
1855–1862	Arthur Edward Kennedy (afterwards Sir Arthur)
1862–1868	John Stephen Hampton
1868–1869	Sir Benjamin Chilley Campbell Pine
1869–1875	Frederick Aloysius Weld (afterwards Sir Frederick)
1875–1877	Sir William Cleaver Francis Robinson
1878–1880	Major-General Sir Harry St George Ord
1880–1883	Sir William Cleaver Francis Robinson
1883–1889	Sir Frederick Napier Broome
1890–1895	Sir William Cleaver Francis Robinson
1895–1900	Lieutenant-Colonel Sir Gerard Smith
1901–1902	Captain Sir Arthur Lawley
1903–1909	Admiral Sir Frederick George Denham Bedford
1909–1913	Sir Gerald Strickland
1913–1917	Major-General Sir Harry Barron
1917–1920	Sir William Grey Ellison Macartney
1920–1924	Sir Francis Alexander Newdigate Newdegate
1924–1931	Colonel Sir William Campion
1933–1948	The Hon. Sir James Mitchell*
1948–1951	The Hon. Sir James Mitchell
1951–1963	Lieutenant-General Sir Charles Henry Gairdner
1963–1973	Major-General Sir Douglas Kendrew
1974–1975	Air Commodore Sir Hughie Edwards
1975–1980	Air Chief Marshal Sir Wallace Kyle
1980–1983	Rear-Admiral Sir Richard Trowbridge
1984–1989	Professor Gordon Reid
1990–1993	The Hon. Sir Francis Burt
1993–2000	Major-General Michael Jeffery
2000–2005	Lieutenant-General John Sanderson
2006–present	Dr Ken Michael

* Lieutenant-Governor
Compiled by Bianca Piestrzeniewicz
Further reading: http://www.govhouse.wa.gov.au

Premiers of Western Australia from 1890

Dates of Office		Party of Government
Dec 1890 – Feb 1901	Forrest, Sir John	
Feb 1901 – May 1901	Throssell, George	Forrest Party
May 1901 – Nov 1901	Leake, George	Opposition
Nov 1901 – Dec 1901	Morgans, Alfred Edward	Ministerialist
Dec 1901 – Jul 1902	Leake, George	Opposition
Jul 1902 – Aug 1904	James, Sir Walter Hartwell	Liberal
Aug 1904 – Aug 1905	Daglish, Henry	Labor
Aug 1905 – May 1906	Rason, Sir Cornthwaite Hector	Liberal
May 1906 – Sep 1910	Moore, Major-General Sir Newton James	Ministerialist
Sep 1910 – Oct 1911	Wilson, Frank	Liberal
Oct 1911 – Jul 1916	Scaddan, John	Labor
Jul 1916 – Jun 1917	Wilson, Frank	Liberal
Jun 1917 – Apr 1919	Lefroy, Sir Henry Bruce	National
Apr 1919 – May 1919	Colebatch, Sir Hal Pateshall	National
May 1919 – April 1924	Mitchell, Sir James	National/Country Party
April 1924 – Apr 1930	Collier, Phillip	Australian Labor Party
Apr 1930 – Apr 1933	Mitchell, Sir James	National/Country Party
Apr 1933 – Aug 1936	Collier, Phillip	ALP
Aug 1936 – Jul 1945	Willcock, John Collings	ALP
Jul 1945 – Apr 1947	Wise, Frank Joseph Scott	ALP
Apr 1947 – Feb 1953	McLarty, Sir Duncan Ross	Liberal/Country Party
Feb 1953 – Apr 1959	Hawke, Albert Redvers George	ALP
Apr 1959 – Mar 1971	Brand, Sir David	Liberal/Country Party
Mar 1971 – Apr 1974	Tonkin, John Trezise	ALP
Apr 1974 – Jan 1982	Court, Sir Charles Walter Michael	Liberal/National Party
Jan 1982 – Feb 1983	O' Connor, Raymond James	Liberal/National Party
Feb 1983 – Feb 1988	Burke, Brian Thomas	ALP
Feb 1988 – Feb 1990	Dowding, Peter McCallum	ALP
Feb 1990 – Feb 1993	Lawrence, Dr Carmen Mary	ALP
Feb 1993 – Feb 2001	Court, Richard Fairfax	Liberal/National Party
Feb 2001 – Jan 2006	Gallop, Dr Geoffrey Ian	ALP
Jan 2006 – Sep 2008	Carpenter, Alan John	ALP
Sep 2008 – Present	Barnett, Colin James	Liberal Party

Compiled by Bianca Piestrzeniewicz
Further reading: G. S. Reid and M. R. Oliver, *The Premiers of Western Australia 1980–1982*, (1982)

Victoria Cross winners, Western Australia

Note: The names below are those of Victoria Cross winners thought to be 'Western Australians'. It is not clear by the military units whether they were born in WA and joined in other states, or were transferred to other units, or migrated to WA after the war.

Year	Name	Where award won	Name of unit
1901	Frederick Bell	South Africa	Western Australian Mounted Infantry
1915	Hugo Throssell	Gallipoli	10th Light Horse
1916	Martin O'Meara	France	16th SA and WA
1917	Charles Pope (P)	France	11th WA
1917	Henry Murray	France	13th NSW
1917	John Carroll	France	33rd NSW
1918	Arthur Gaby (P)	France	28th WA
1918	Clifford Sadlier	France	51st Vic
1918	James Woods	France	48th SA
1918	Laurence McCarthy	France	16th SA and WA
1918	Thomas Axford	France	16th SA and WA
1941	Hughie Edwards	Germany	105 Sqd Royal Air Force
1941	James Gordon	Syria	31st Qld and Vic
1942	Arthur Gurney (P)	Egypt	2/48th SA
1942	Percival Gratwick (P)	Libya	48th SA
1945	Leslie Starcevich	North Borneo	43rd SA

P = awarded posthumously
Compiled by Neville Green

Western Australian Citizen of the Year Awards

The Western Australian Citizen of the Year Awards were first presented on Foundation Day, 1 June 1973. The awards acknowledge Western Australians' achievements, contributions, leadership and commitment to the state. Since 1973, additional awards have been sponsored to recognise particular fields of endeavour and there are now nine awards presented annually.

ARTS CULTURE & ENTERTAINMENT
(Sponsored by Burswood International Resort Casino)
Acknowledging an individual's significant contribution to the promotion of arts, culture or entertainment in Western Australia.

1973	John Birman	1991	Jean Lang
1974	Judy Reynolds	1992	Peter Tuck
1975	Emeritus Professor Sir Frank Callaway	1993	Ratimir Gomboc
1976	Edgar Metcalfe	1994	Vaughan Hanley
1977	Paul Buddee	1995	Elizabeth Caiacob
1978	Ian Templeman	1996	Paul Barron
1979	Robert Juniper	1997	Joan Campbell
1980	Frederica Erickson	1998	David Blenkinsop
1981	Nita Pannell	1999	Madame Kira Bousloff
1982	Raymond Omodei	2000	Chrissie Parrott
1983	John Christmass	2001	Max Kay
1984	Dr Helen Watson-Williams	2002	Graeme Henderson
1985	Dr Jack Davis	2003	Professor Ted Snell
1986	John Embleton	2004	Jill Perryman
1987	Dr Elizabeth Jolley	2005	Tom Hungerford
1988	George Coleman	2006	Terri Charlesworth
1989	Sally Morgan	2007	Tim Winton
1990	Evelyn Thompson	2008	Tony Jones

COMMUNITY SERVICE
(Sponsored by the Western Australian Club Inc)
Acknowledges the selfless commitment an individual makes in serving the needs of others in the community.

1973	Dr Randolph Spargo	1977	Margaret Salter
1974	Rita Patching	1978	Jean Bryant
1975	Evelyn Parker	1979	Mary McKenzie
1976	Elizabeth May Hansen	1980	Ray Finlayson

1981	Jeffrey Hopp	1995	Peter Holland
1982	Barney Stewart	1996	Keith Mattingley
1983	Dr Eugene Granville Le Breton	1997	John Fisher
1984	Amy Duncan	1998	Theo Kannis
1985	Sally Haynes	1999	Professor Fiona Stanley
1986	Sister Marie Winch	2000	Dr Ruth Reid
1987	Gerard MacGill	2001	Richard Cleaver
1988	John Hedges	2002	Graham Mabury
1989	Gloria Walley	2003	Edie Hoy Poy
1990	Eric Ahern	2004	Brother Olly Pickett
1991	Dr Kenneth Collins	2005	Dr Ivy Bullen
1992	Dr Douglas MacAdam	2006	Kedy Kristal
1993	Dr Eric Tan	2007	Dr Guy Hamilton
1994	Darryl Hockey	2008	Patricia Lavater

GOVERNOR'S AWARD FOR REGIONAL DEVELOPMENT
(Sponsored by the Department of Local Government and Regional Development)
Acknowledging the contribution an individual has made to the development of regional
Western Australia through their field of endeavour.

1995	Sir Donald Eckersley	2002	Kathleen Finlayson
1996	John Haynes	2003	Tom Field
1997	Annette Knight	2004	The Hon. Ernie Bridge
1998	Gwendoline Walton	2005	The Hon. Hendy Cowan
1999	Professor Max Kamien	2006	Russel Mouritz
2000	John Willinge	2007	Mary Nenke
2001	Charles (Harry) Perkins	2008	George (Rex) Edmondson

INDUSTRY & COMMERCE
(Sponsored by Kailis Australian Pearls)
This award recognises the commitment and success of an individual
within the field of industry and commerce.

1973	Ralph Sarich	1985	Harry Sorensen
1974	Sir Lawrence Brodie-Hall	1986	Thomas Perrott
1975	Michael Edgley	1987	David Fischer
1976	Ronald Sloan	1988	Kevin Sullivan
1977	Sir Donald Payze Eckersley	1989	Ken Court
1978	Edwin Benness	1990	Trevor Eastwood
1979	Dr Michael Kailis	1991	Malcolm Macpherson
1980	Sir James Cruthers	1992	Ian Burston
1981	Peter Firkins	1993	Roger Vines
1982	Sir Charles Court	1994	Kerry Stokes
1983	Harold Clough	1995	Warwick Kent
1984	Albert Pepperell	1996	Richard Carter

1997	Michael Chaney	2003	Stan Perron
1998	Noel Semmens	2004	John Stefanelli
1999	John Rothwell	2005	Tony Howarth
2000	John Da Silva	2006	John Poynton
2001	Maud Edmiston	2007	Sam Walsh
2002	Jack Bendat	2008	Richard Goyder

THE PROFESSIONS
(Sponsored by Jackson McDonald Lawyers)
Presented to an individual who demonstrates commitment, leadership and outstanding endeavour in their chosen profession or vocation.

1973	Ernest Freeth	1992	Dr John Gladstones
1974	Murray Johnstone	1993	Dr Kevin Cullen
1975	Dr Phyllis Goatcher	1994	Dr Margaret Smith
1976	Lynette Whittingham	1995	Peter Knight
1977	Dr Haydn Williams	1996	Professor Jorg Imberger
1978	Dr Dermot Foster	1997	Professor Ian Ritchie
1979	Dr Lesley Vincent	1998	The Hon. Justice Robert French
1980	Harry Butler	1999	Professor Fiona Stanley
1981	Nora Hook	2000	The Hon. David Malcolm
1982	Donald Aitken	2000	Dr George O'Neil
1983	Henry Kennerson	2001	Dr Kenneth Michael
1984	Henry Louden	2002	Dr Harold McComb
1985	Emeritus Professor Marcus Liveris	2003	Emeritus Professor Geoffrey Bolton
1986	Professor John De Laeter	2004	Dr Fiona Wood
1987	Professor Ian Constable	2005	Malcolm McCusker
1988	Sir Francis Burt	2006	Emeritus Professor Robin Warren & Professor Barry Marshall
1989	Sir Ronald Wilson		
1990	Dr Patricia Ryan	2007	The Hon. Chief Justice Wayne Martin
1991	Peter Moyes	2008	Professor Peter Klinken

SPORT
(Sponsored by Bell-Vista Fruit and Vegetables Co. Pty Ltd)
Presented to an individual who has made an outstanding contribution to the advancement of Western Australian sport.

1973	Robin Johnson	1981	Bill Mather-Brown
1974	John Allan Johnston	1982	Arthur McRobbie
1975	John Inverarity	1983	Barry Sanders
1976	Francis Butler	1984	Francis Day
1977	Gwenneth Chester	1985	Dr Stanley Hammond
1978	Joseph Lord	1986	Constance Hicks
1979	Professor John Bloomfield	1987	Dr Stanley Reid
1980	Leslie Mathews	1988	Jon Sanders

1989	Thomas Hoad	1999	Yvonne Rate
1990	Donald Stockins	2000	Wally Foreman
1991	Keith Gaisford	2001	Dr Richard Charlesworth
1992	Syd Corser	2002	Bette Allison
1993	David Cummins	2003	Fred Kersley
1994	Jean Burling	2004	Mavis Owens
1995	Jeffrey Hollands	2005	Ken Baxter
1996	Alan Hicks	2006	Geoffrey Stooke
1997	Barry Cable	2007	Francis Pont
1998	Dr Kenneth Fitch	2008	Ron Tindall

SYD DONOVAN YOUTH ARTS AWARD
*(Sponsored by the Western Australian Academy of Performing Arts
and the West Australian Opera Company)*
Acknowledges an individual between 18 and 25 years old who is beginning their career and is excelling in the arts. Named in honour of the late Syd Donovan, a past chairman of the former Western Australian Week Council, journalist and television pioneer.

1986	Shelley Hogg	1997	Phillip Murray
1987	Heather Williams	1998	Elise Su-Lyn Chong
1988	Jason Gilkinson & Peta Roby	1999	Kathryn James
1989	Elizabeth Chester	2000	Gillian Hansen
1990	Richard Braham	2001	Michelle Jank
1991	Christopher Tingay	2002	Tanya Miles
1992	Craig Ogden	2003	Christian de Vietri
1993	Lesley Morgan	2004	Milica Ilic
1994	Paul Sloan	2005	Lucas Bowers
1995	Craig Williams	2006	Jaime Phillips
1996	Robin Warren	2007	Duncan Rock
		2008	Aimee Johns

YOUTH
(Sponsored by Murdoch University)
Recognises the efforts of an individual between 18 and 25 years old who has succeeded in bringing about positive change in their life and the lives of others.

1991	Geoff Harvey	2000	Midge Turnbull
1992	Felicity Brown-Thomas	2001	Gillian Humphries
1993	Tracey Cross	2002	Tracey Clark
1994	Joanne Della Bona	2003	Rafael Niesten
1995	Simon Tan	2004	Fiona Shepherd
1996	Robyn Paul	2005	Michael Hayden
1997	Janelle Booth	2006	Darren Lomman
1998	Alana Farrell	2007	Jo-Anne D'Cress
1999	Claire Tonkin	2008	Vinay Menon

Appendix 4

GOLD SWAN

(Sponsored by Alcoa)

Recognises the efforts of a voluntary service organisation for its outstanding contributions to the community in the areas of concern and service delivery.

1979	Silver Chain Nursing Association	1994	Keep Australia Beautiful Council WA
1980	Country Women's Association of WA	1995	Foundation for Information Radio of WA Inc.
1981	Dowerin Field Days		
1982	Jesus People Welfare Services Inc.	1996	The Sisters of Mercy of Western Australia
1983	Snap Instant Printing Pty Ltd		
1984	Hospice Palliative Care Service	1997	The Society of St Vincent de Paul
1985	Girl Guide & Scout Associations of WA	1998	Uni Camp for Kids
		1999	Royal Flying Doctor Service
1986	Voluntary Transport of Royal Perth Hospital	2000	School Volunteer Program Inc.
		2001	Outcare Inc.
1987	Lions Save-Sight Foundation WA Inc.	2002	Surf Life Western Australia
1988	Middar Aboriginal Theatre	2003	Foodbank of Western Australia Inc.
1989	Samaritan Befrienders Inc.	2004	Rotary Clubs of WA
1990	Volunteer Officers of St John Ambulance	2005	Ngala Family Resource Centre
		2006	The Volunteer First Aid Service of St John Ambulance Australia WA Inc.
1991	The Royal Association of Justices WA		
1992	Volunteer Fire Brigades Association of WA	2007	SES Volunteer Association Western Australia
1993	Apex Clubs of Western Australia Inc.	2008	Kidney Health Australia

Additional awards presented at times of significant achievement are:

EPIC ACHIEVEMENT AWARD

Inaugurated in 1983, and awarded when a Western Australian achievement of truly epic proportions occurs.

1983	Jon Sanders	1991	Tim McCartney Snape
1984	Australia ll Syndicate	1994	HM *Bark Endeavour* Replica Project
1990	Brian Edwards	1997	David Dicks

SPIRIT OF WA

A team award, first presented in 1999, it honours the remarkable efforts of 'unsung heroes' of organisations that respond immediately to situations of hardship and devastation.

1999	Australian Red Cross	1999	Defence Corporate Support Service Australian Army
1999	Defence Corporate Support Service RAAF WA		
		1999	Telstra
1999	Bureau of Meteorology	1999	MG Kailis Gulf Fisheries

1999	Salvation Army WA Division	1999	Fire & Emergency Services Authority of WA SES
1999	St John Ambulance Australia		
1999	RSPCA WA Inc	1999	Fire & Emergency Services Authority of WA – Fire Services
1999	Agriculture WA		
1999	Insurance Council of Australia Ltd WA	1999	Western Australian Police Service
1999	Shire of Ashburton	1999	Water Corporation
1999	Lord Mayor's Disaster Relief Appeal	1999	Western Power
1999	Family and Children's Services	1999	Health Department of WA
1999	Shire of Exmouth	1999	Shire of Moora
1999	Ministry of the Premier and Cabinet	1999	Office of Energy
1999	Fire & Emergency Services Authority of WA	1999	Main Roads WA Gascoyne Region
		1999	Homeswest

LIFETIME ACHIEVEMENT AWARD

First presented in 2000 to recognise the lifelong contribution of an individual
in their area of endeavour.

2000	Dr Howard Taylor (Arts, Culture & Entertainment)	2005	Joe Zekulich (Industry & Commerce and Community Service)
		2007	Sir Charles Court

SPECIAL YEAR 2000 AWARD

To celebrate the passing of an old and the beginning of a new millennium, this award
honoured role models who have provided inspiration, leadership and compassionate vision
to the people and state of Western Australia.

Major General Michael Jeffery &
Mrs Marlena Jeffery

SIR CHARLES COURT INSPIRING LEADERSHIP AWARD

2007   Dr Ian Constable

Compiled by Anna Kesson
Further reading: http://www.celebratewa.com.au

Royal visits to Western Australia

1869 HRH Prince Alfred, Duke of Edinburgh
1901 HRH Duke and Duchess of Cornwall and York
1920 HRH Edward, Prince of Wales
1927 HRH Duke and Duchess of York
1934 HRH Duke of Gloucester
1946 HRH Duke of Gloucester, Governor-General of Australia, and Duchess of Gloucester
1954 HM Queen Elizabeth II and HRH Prince Philip, Duke of Edinburgh
1958 HM Queen Elizabeth, Queen Mother
1962 HRH Duke of Edinburgh
1962 Their Majesties King Bhumibol and Queen Sirikit of Thailand
1963 HM Queen Elizabeth II and HRH Prince Philip, Duke of Edinburgh
1966 HM Queen Elizabeth, Queen Mother
1968 His Imperial Majesty Haile Selassie I of Ethiopia and Their Imperial Majesties
      Princess Ijigayehou Assfa Wossen and Princess Sofia Desta
1969 HRH Duke and Duchess of Kent
1971 HRH Duke of Edinburgh
1972 HRH Princess Margaret and Earl of Snowdon
1975 HRH Princess Anne and Captain Mark Phillips
1977 HRH Queen Elizabeth II, HRH Charles, Prince of Wales
1979 HRH Duke of Edinburgh
1979 HRH Charles, Prince of Wales
1979 HRH Princess Anne
1980 HRH Princess Alexandra
1981 HM Queen Elizabeth II and Prince Philip, Duke of Edinburgh
1983 HRH Charles, Prince of Wales
1986 HRH Duke of Kent
1987 HRH Princess Anne
1988 HRH Queen Elizabeth II
1990 HRH Prince Philip, Duke of Edinburgh
1994 HRH Charles, Prince of Wales, and Diana, Princess of Wales
2000 HRH Queen Elizabeth II
2005 HRH Charles, Prince of Wales

Compiled by Jenny Gregory

Convict Ships to Western Australia

Ship	Year of arrival	Notes	Ship	Year of arrival	Notes
Scindian	1850		*Nile*	1858	
Hashemy	1850		*Caducius*	1858	(From India)
Mermaid	1851		*Lord Raglan*	1858	
Pyrenees	1851		*Albeura*	1858	(From India)
Minden	1851		*Edwin Fox*	1858	
Marion	1852		*Sultana*	1859	
William Jardine	1852		*Frances*	1859	(From India)
Dudbrook	1853		*Palmerston*	1861	
Pyrenees	1853		*Lincelles*	1862	
Robert Small	1853		*Norwood*	1862	
Phoebe Dunbar	1853		*York*	1862	
General Godwin	1854	(From India)	*Merchantman*	1863	
Sea Park	1854		*Clyde*	1863	
Ramillies	1854		*Lord Dalhousie*	1863	
Guide	1855	(From India)	*Clara*	1864	
Stag	1855		*Merchantman*	1864	
Adelaide	1855		*Racehorse*	1865	
William Hammond	1856		*Vimeira*	1865	
Runnymede	1856		*Belgravia*	1866	
Clara	1857		*Corona*	1866	
City of Palaces	1857	(From Singapore)	*Norwood*	1867	
			Hougoumont	1868	

Select historical list of songs
about Western Australia, with locations

Locations:

NLA:	National Library of Australia
PAM:	Performing Arts Museum, Perth
SLNSW:	State Library of New South Wales
SLSA:	State Library of South Australia
SLV:	State Library of Victoria
SLWA:	State Library of Western Australia
UWA:	University of Western Australia

Australia's singing West: a folk history of Western Australia in ballad and song
NLA

Babylon, Paul
The lights of Perth.
Perth: Parade Music (1962)
PAM, SLWA

Brown, Baxter
Australian for me
Perth: Paterson's Printing Press Ltd
(between 1935 and 1950)
NLA, PAM, SLWA

Boundy, C. A.
The greatest pal I had.
Perth (19––?)
SLWA

Cato, Frank
The golden west
Perth (c. 19--?)
SLWA

Chanter, Arthur
By the River Swan
London & Melbourne: Fletcher & Co.
(c. 19––?)
SLWA

Clay, Henry Ebenezer
Rouse thee Wes'tralia: proclamation song
Perth: Sands & McDougall (1890)
SLWA, SLSA

Clifton, Mervyn
Down Careening Bay
Perth: W. L. Kelly
PAM

Coultas, Ada
Fair city of Perth: a tribute in song
Perth (19--?)
PAM, SLWA

Craft, E. S.
Wesley College school song
Perth (19––?)
SLWA

Daw, Ethel
Qualup bell
Perth: Paterson Brokensha (19––?)
SLWA

Daw, Helen L.
Esperance (a little town beside the southern sea)
Australia: H. Daw (19––?)
SLWA

Daw, Helen L.
Floating down the moonlit Dalyup River
Australia: H. Daw (19––?)
SLWA

Daw, Helen L.
A song of Esperance
Australia: H. L. Daw (19––?)
SLWA

Daw, Helen L.
Wattle blossom maid
Australia: H. Daw (19––?)
SLWA

Dore, Margaretta
Western Australia's national song
Perth (19––?)
SLWA

Du Boulay, Walter M.
When we get to Berlin
Perth: Sands & McDougall (between 1914 and 1918?)
SLWA, NLA

Duns, Wm (William)
It's a long way to West Australia!: camp song
Perth?: S.T. Upham (between 1914 and 1918)
SLWA

Duns, Wm (William)
Right on to Berlin we'll go!
Perth: S. T. Upham (19––?)
SLWA

Edwards, Billy (words by Ellen Putland)
Lovely Swan River
Perth (19––?)
SLWA

Farrington, Joyce
The Narrows Bridge
Perth (196–?)
SLWA

Fitz-gerald, R. John
Avon Valley moon
Perth: Channel 7 Telethon Inc. (c. 1975)
PAM, SLWA

Fitz-gerald, R. John
The brand new state
Perth: R. J. Fitz-gerald (196–?)
SLWA

Fitz-gerald, R. John
The dawn of old Guildford town
Guildford, WA: The Swan-Guildford
Historical Society (c. 1980)
SLWA

Fitz-gerald, R. John
Song of the golden West
Guildford, WA: R. J. Fitz-gerald (1982)
SLWA

Ford, C. Edgar (words by J. W. Chadwick)
Eternal ruler (for the Golden Jubilee
Celebrations of the Grand Lodge of Western
Australia)
Perth: Grand Lodge of Western Australia
(1950)
SLWA

Foster, Grace
Those Stirling Ranges
(19––?)
SLWA

Hadwen-Chandler, H.
To arms, Australia!: new patriotic song
Perth: Dwyer & Carroll (191–?)
SLWA

Hanby, Veronica
Beautiful river Swan
California: Nordyke Publishing (1961)
SLWA

Hardwick, Haydn K.
(words by Malcolm Donald)
Fair western land: Western Australia's centenary song
Perth: R. S. Sampson (c. 1929)
SLWA

Hardwick, Haydn K.
(words by Malcolm Donald)
Fair western land: Western Australia's centenary song
Perth: R. S. Sampson (c. 1929)
SLWA

Harris, S. M.
Brave Battalion Eleven: W.A. Battalion song
Perth: S. T. Upham (191–?)
SLWA

Henderson, J. P.
There's a great time coming
Perth: Beatty Bros (1943)
PAM

Hinz, Frank (words by Louise Raymond)
Westralia
Frankston, Vic: Sound Austral (c. 1989)
NLA, SLNSW, SLV

Hinz, Frank (words by Louise Raymond)
Wonder of the West
Frankston, Vic: Sound Austral (1989)
NLA, SLNSW, SLV

Humble, Jack
Westralia's shores
Perth: Paterson's (n.d.)
PAM

Langley, Elsa (words by F. R. Barlee)
Emeriti: patriotic song and chorus
Perth: E. S. Wigg (1919?)
SLWA

Melville, Doris
Troops go marching by
Perth: Paterson's Printing Press (194–?)
SLWA

Meston, Walter P.
Four songs of the West
Perth, WA: Jones Printery (19––?)
SLWA

Montrose, Percy
I've a home in West Australia!
Perth: S. T. Upham (191-?)
SLWA

Moondyne Joe and other Sandgroper ballads (1950?)
UWA

Needham, S. Pascal
The grand processional march from 'The land of the swan'
Melbourne: De Gruchy & Co (1883)
PAM

Nesbitt, Max
I've got a gal in Kalgoorlie
Sydney: Chappell & Co. (c. 1950)
SLWA

Rees, Ronald
Here's to our League
Perth?: Young Australia League (192-?)
NLA

Richards, Ralph N.
(words by Wm L. Nelson; arranged for solo voice and pianoforte by Mirrie Hill)
Great western land
Melbourne?: A. Kynoch? (c. 1940)
SLWA

Stephens, William (words by F. R. Barlee)
Welcome home
Perth: E. S. Wigg & Son (191–?)
SLWA

Summers, J. (Joseph)
Swanland
Perth: J. Summers (1897)
SLWA

Summers, J. (Joseph)
(words by Mrs L. Sayers)
The Westralian anthem
Perth: A. W. Dobbie & Co. (19––?)
SLWA

Thompson, Robert L.
The 3rd Brigade
Perth: Bryans Printing Works (19––?)
SLWA

Vowles, H. (words by P. U. Henn)
Carmen: Church of England Grammar
School, Guildford, W.A.
Guildford, WA: Church of England Grammar
School (1918)
SLWA

Walther, Ken
Let's do it for W.A.
Pyrmont, NSW: Festival Music (c. 1983)
NLA, PAM, SLNSW

Webster, Geo. H. (words by Bertram Pratt)
Dominion anthem
Perth?: Dominion League of Western
Australia? (193–?)
NLA

Webster, Geo. H. (words by Bertram Pratt)
Liberty's light
Perth?: Dominion League of Western
Australia? (193–?)
NLA

Webster, Geo. H. (lyrics by Bertram Pratt)
Westralia free
Perth?: Dominion League of Western
Australia? (193–?)
NLA

Westrada, Robert
Banks of the Blackwood
Perth: Australian Music Publishers (c. 1945)
SLWA

Wildflower of Western Australia
Perth: Govt Printer, (19––?)
SLWA

Withers, Edith (words by Carlyle Ferguson)
The golden west
Perth: Sands & McDougall (c. 19––?)
SLWA

Williams, Nellie L.
(words by A. Tyrrell Williams)
The gallant Light Horse
Western Australia? (191-?)
SLWA

York, Raymond (words by C. M. Huggins)
Perth on the Swan: veleta waltz
Perth: R. York & C. M. Huggins (194–?)
SLWA

York, Raymond
(air and words by C. M. Huggins)
The song of W.A.
(1948)
SLWA

Compiled by Allison Fyfe

Sandover Medallists

The Sandover Medal is awarded for the fairest and best player or players in the West Australian Football League. It was initiated in 1921, three years before the Brownlow Medal, the comparable award for VFL, then AFL, players. The medal was donated by Mr Alfred Sandover of Sandovers Ltd in 1921.

1921	Tom Outridge	Subiaco
	Cyril Hoft	Perth
1922	Harold Boyd	West Perth
1923	Will (Digger) Thomas	East Perth
1924	Jim Gosnell	West Perth
1925	George Owens	East Perth
1926	John Leonard	Subiaco
1927	Jim Craig	West Perth
1928	Jack Rocchi	South Fremantle
1929	William (Billy) Thomas	East Perth
	John Leonard	Subiaco
1930	Ted Fleming	West Perth
1931	Lin Richards	East Fremantle
1932	Keith Hough	Claremont/Cottesloe
1933	Sammy Clarke	Claremont/Cottesloe
1934	Sammy Clarke	Claremont/Cottesloe
1935	Lou Daily	Subiaco
	George Krepp	Swan Districts
1936	George Moloney	Claremont
1937	Frank Jenkins	South Fremantle
1938	Haydn Bunton (Senior)	Subiaco
1939	Haydn Bunton (Senior)	Subiaco
1940	Ed (Checker) O'Keefe	West Perth
1941	Haydn Bunton (Senior)	Subiaco
1942	Laurie Bowen	West Perth
1943	Terry Moriarty	Perth
1944	Jim Davies	Swan Districts
1945	George Bailey	Perth
1946	John Loughridge	West Perth
1947	Clive Lewington	South Fremantle
1948	Merv McIntosh	Perth
1949	Gordon Maffina	Claremont
1950	Jim Conway	East Fremantle
	Frank Allen	East Perth

1951	Fred Buttsworth	West Perth
1952	Steve Marsh	South Fremantle
1953	Merv McIntosh	Perth
1954	Merv McIntosh	Perth
1955	John Todd	South Fremantle
1956	Graham Farmer	East Perth
1957	Jack Clarke	East Fremantle
	Graham Farmer	East Perth
1958	Ted Kilmurray	East Perth
1959	Brian Foley	West Perth
1960	Graham Farmer	East Perth
1961	Neville Beard	Perth
	Ray Sorrell	East Fremantle
1962	Haydn Bunton (Junior)	Swan Districts
1963	Ray Sorrell	East Fremantle
1964	Barry Cable	Perth
1965	Bill Walker	Swan Districts
1966	Bill Walker	Swan Districts
1967	Bill Walker	Swan Districts
	John Parkinson	Claremont
1968	Barry Cable	Perth
1969	Malcolm Brown	East Perth
1970	Pat Dalton	Perth
	Bill Walker	Swan Districts
1971	David Hollins	East Fremantle
1972	Ian Miller	Perth
1973	Barry Cable	Perth
1974	Graham Melrose	East Fremantle
1975	Alan Quartermaine	East Perth
1976	Peter Spencer	East Perth
1977	Brian Peake	East Fremantle
1978	Phil Kelly	East Perth
1979	Phil Kelly	East Perth
1980	Stephen Michael	South Fremantle
1981	Stephen Michael	South Fremantle
1982	Phil Narkle	Swan Districts
1983	John Ironmonger	East Perth
	Bryan Cousins	Perth
1984	Peter Spencer	East Perth
	Michael Mitchell	Claremont
	Steve Malaxos	Claremont
1985	Murray Wrensted	East Fremantle
1986	Mark Bairstow	South Fremantle
1987	Mark Watson	Perth
1988	David Bain	East Perth
1989	Craig Edwards	South Fremantle
1990	Mick Grasso	Swan Districts

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1991	Ian Dargie	Subiaco
1992	Robbie West	West Perth
1993	Neil Mildenhall	West Perth
1994	Ian Dargie	Subiaco
1995	Craig Treleven	East Fremantle
1996	Jeremy Wasley	Swan Districts
1997	Brady Anderson	East Perth
1998	Adrian Bromage	East Fremantle
1999	Gus Seebeck	Perth
2000	Richard Ambrose	Subiaco
2001	Ryan Turnbull	East Perth
2002	Allistair Pickett	Peel Thunder
2003	Shane Beros	Swan Districts
2004	Allistair Pickett	Subiaco
2005	Jaxon Crabb	Claremont
	Toby McGrath	South Fremantle
2006	Max Priddis	Subiaco
2007	Anthony Jones	Claremont
2008	Hayden Ballantyne	Peel Thunder

Compiled by Keryn Clark and Bianca Piestrzeniewicz

Western Australian Olympic Medallists

Between 1912 and 2008, a total of 572 Western Australians (425 athletes and 147 officials) have represented the state in the Australian Olympic Team. Western Australians earned their first medals in the Summer Games of 1948 and in the Winter Games of 1994.

GOLD 1948–2008

1948	John Winter	Athletics
1952	Shirley Strickland	Athletics
1956	Shirley Strickland	Athletics (2)
	Kevin O'Halloran	Swimming
1960	Herb Elliott	Athletics
1968	Lyn McClements	Swimming
1980	Neil Brooks	Swimming
	Peter Evans	Swimming
1988	Sharon Buchanan	Hockey
	Lee Capes	Hockey
	Michelle Capes	Hockey
	Sally Carbon	Hockey
	Elspeth Clement	Hockey
	Rechelle Hawkes	Hockey
	Lorraine Hillas (Wharton)	Hockey
	Jackie Pereira	Hockey
1996	Michelle Andrews	Hockey
	Rechelle Hawkes	Hockey
	Karen Marsden	Hockey
	Jackie Pereira	Hockey
	Kate Starre	Hockey
2000	Rechelle Hawkes	Hockey
	Kate Starre	Hockey
	Todd Pearson (2)	Swimming
	William Kirby	Swimming
	Belinda Stowell	Sailing
	Bridgette Gusterson	Water Polo
	Kate Hooper	Water Polo
	Danielle Woodhouse	Water Polo
2004	Ryan Bayley (2)	Cycling
	Peter Dawson	Cycling
	Bevan George	Hockey

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2008	Steve Hooker	Athletics
	Elsie Rechichi	Sailing
	Tessa Parkinson	Sailing

SILVER 1948–2008

1948	Shirley Strickland	Athletics
1956	Graham Gipson	Athletics
	Rolly Tasker	Yachting
1968	Brian Glencross	Hockey
	Ray Evans	Hockey
	Don Martin	Hockey
	Eric Pearce	Hockey
	Gordon Pearce	Hockey
	Julian Pearce	Hockey
	Don Smart	Hockey
	Lyn McClements	Swimming
	Lynne Watson	Swimming
1976	David Bell	Hockey
	Ric Charlesworth	Hockey
	Mal Poole	Hockey
	Terry Walsh	Hockey
1984	Tony Lovrich	Rowing
	Neil Brooks	Swimming
1992	John Bestall	Hockey
	Warren Birmingham	Hockey
	Greg Corbitt	Hockey
	Damon Diletti	Hockey
	Dean Evans	Hockey
1996	Rob Scott	Rowing
	Helen Denman	Swimming
2004	John Steffensen	Athletics
	Ben Cureton	Rowing
	Glen Loftus	Rowing
	Antony Matkovich	Swimming
	Todd Pearson	Swimming
2008	Sonja Johnson	Equestrian
	Clayton Fredericks	Equestrian
	Lucinda Fredericks	Equestrian
	Eamon Sullivan (2)	Swimming

BRONZE 1948–2008

1948	Shirley Strickland (2)	Athletics
1952	Shirley Strickland	Athletics
1960	David Dickson	Swimming

1964	Ray Evans	Hockey
	Brian Glencross	Hockey
	Don Martin	Hockey
	Eric Pearce	Hockey
	Julian Pearce	Hockey
	Don Smart	Hockey
	Tony Waters	Hockey
	David Dickson (2)	Swimming
	John Ryan	Swimming
1980	Peter Evans	Swimming
1984	Peter Evans (2)	Swimming
1988	Kelvin Graham	Canoeing
	Elizabeth Smylie	Tennis
1992	Ramon Andersson	Canoeing
1994	Richard Nizielski	Ice Speed Skating
1996	Lucy Tyler-Sharman	Cycling
	Stuart Carruthers	Hockey
	Damon Diletti	Hockey
	Paul Gaudoin	Hockey
	Mark Hager	Hockey
	Ron Snook	Rowing
	Julia Greville	Swimming
	Natalie Cook	Volleyball (Beach)
	Kerri Pottharst	Volleyball (Beach)
2000	Darryn Hill	Cycling
	Damon Diletti	Hockey
	Paul Gaudoin	Hockey
2004	Amber Bradley	Rowing
	Stuart Reside	Rowing
	Stefan Szczurowski	Rowing
	Rebecca Sattin	Rowing
2008	Robin Bell	Canoe/Kayak
	Lisa Oldenhof	Canoe/Kayak
	Kiel Brown	Hockey
	Bevan George	Hockey
	Fergus Kavanagh	Hockey
	Eamon Sullivan	Swimming
	Gemma Beardsworth	Water Polo
	Emma Knox	Water Polo

Compiled by Anna Kesson and Jan Gothard
Further reading: www.olympics.com.au/wa

Western Australian Paralympic Medallists (Summer Games)

Paralympic Summer Games have been held every four years since 1960; Paralympic Winter Games since 1976. Western Australians have participated in every Summer Games since the inception of the Paralympic Games.

These lists do not show all Western Australian athletes as not all athletes' state affiliations are identified in the earlier records; nor do they list Western Australian medallists in the Winter Paralympics.

GOLD (Summer Paralympics)

1964	Frank Ponta	Swimming
	Elizabeth Edmondson (3)	Swimming
1968	Lorraine Dodd (3)	Swimming
	Elizabeth Edmondson (2)	Swimming
1988	Bradley Hill	Athletics
	Bruce Wallrodt (2)	Athletics
	Patricia Molseed	Athletics
	Sandra Yaxley	Swimming
1992	Karl Feifar	Athletics
	Bruce Wallrodt	Athletics
	Louise Sauvage (3)	Athletics
	Priya Cooper (3)	Swimming
	Tracey Cross (2)	Swimming
	Mandy Maywood	Swimming
	Sandra Yaxley	Swimming
1996	Bruce Wallrodt	Athletics
	Louise Sauvage (4)	Athletics
	Kingsley Bugarin (3)	Swimming
	Priya Cooper (5)	Swimming
	Tracey Cross (2)	Swimming
	Benjamin Cox	Wheelchair basketball
2000	Paul Mitchell	Athletics
	Matthew Gray (2)	Cycling
	Paul Clohessy	Cycling
	Darren Harry	Cycling
	Mark le Flohic	Cycling
	Lyn Lepore	Cycling
	Lynette Nixon	Cycling
	Jamie Dunross	Sailing
	Graham Martin	Sailing
	Noel Robins	Sailing

	Paul Barnett	Swimming
	Kingsley Bugarin (2)	Swimming
2004	Mark le Flohic	Cycling
2008	Tyson Lawrence	Cycling
	Katrina Porter	Swimming
	Justin Eveson	Wheelchair basketball
	Michael Hartnett	Wheelchair basketball
	Brad Ness	Wheelchair basketball
	Shaun Norris	Wheelchair basketball

SILVER (Summer Paralympics)

1960	Frank Ponta	Athletics
	Bill Mather-Brown	Table Tennis
1964	Lionel Cousens	Archery
	Frank Ponta	Wheelchair fencing
1968	Bill Mather-Brown	Athletics
	Lorraine Dodd	Athletics
	Elizabeth Edmondson	Swimming
1984	John Federico	Athletics
	Kingsley Bugarin (2)	Swimming
1988	Bradley Hill	Athletics
	Karen Gill	Athletics
	Sandra Yaxley	Swimming
	Mandy Maywood	Swimming
1992	Karl Feifar	Athletics
	Bruce Wallrodt (2)	Athletics
	Louise Sauvage	Athletics
	Kingsley Bugarin (3)	Swimming
	Jason Diederich	Swimming
	Priya Cooper (2)	Swimming
	Tracey Cross (2)	Swimming
1996	Paul Clohessy	Cycling
	Eddy Hollands	Cycling
	Matthew Gray	Cycling
	Kingsley Bugarin (2)	Swimming
	Priya Cooper	Swimming
	Tracey Cross	Swimming
2000	Bruce Wallrodt	Athletics
	Lynda Holt	Athletics
	Paul O'Neill	Cycling
	Lyn Lepore	Cycling
	Lynette Nixon	Cycling
	Kingsley Bugarin	Swimming
	Scott Brockenshire	Swimming
	Tracey Cross (2)	Swimming
	Craig Parsons	Wheelchair rugby

2004	Mark le Flohic	Cycling
	Claire McLean	Cycling
	Justin Eveson	Wheelchair basketball
	Brad Ness	Wheelchair basketball
	Shaun Norris	Wheelchair basketball
2008	Madison De Rozario	Athletics
	Brad Scott	Athletics
	Darren Gardiner	Powerlifting
	Grant Boxall	Wheelchair Rugby

BRONZE (Summer Paralympics)

1964	Elaine Schreiber	Table Tennis
1968	Lorraine Dodd	Athletics
	Frank Ponta	Swimming
1984	Kingsley Bugarin	Swimming
1988	Bruce Wallrodt	Athletics
	Kingsley Bugarin (3)	Swimming
	Susan Knox	Swimming
	Mandy Maywood (2)	Swimming
1992	Kingsley Bugarin	Swimming
	Sandra Yaxley	Swimming
	Mandy Maywood	Swimming
1996	Bruce Wallrodt	Athletics
	Kingsley Bugarin	Swimming
	Petrea Barker	Swimming
	Priya Cooper	Swimming
2000	Paul O'Neill (2)	Cycling
	Paul Clohessy	Cycling
	Eddie Hollands	Cycling
	Mark le Flohic	Cycling
	Lyn Lepore	Cycling
	Lynette Nixon	Cycling
	Paul Barnett	Swimming
	Tracey Cross	Swimming
	Stacey Williams	Swimming
2004	Janet Shaw (2)	Cycling
	Kelly McCombie (2)	Cycling
2008	Tyson Lawrence	Cycling
	Russell Boaden	Sailing
	Colin Harrison	Sailing
	Graeme Martin	Sailing
	Clare Burzynski	Wheelchair basketball
	Cobi Crispin	Wheelchair basketball

Compiled by Jan Gothard

Select Guide to Royal Commissions in Western Australia, 1897–2004

This select compilation of Royal Commissions in Western Australia lists the date of appointment of the Royal Commission, the date on which the report was made, the chair of the Royal Commission, and the location of the report in *Western Australian Parliamentary Papers* (hereafter *WAPP*), where known. The list does not claim to be exhaustive or complete.

Royal Commission on city railway traffic, Western Australia
Appointed: 30 June 1897
Reported: 23 December 1898
Chairperson: H. W. Venn
WAPP: 1899, no. 2 (v.1) 38p.

Royal Commission on mining (in) Western Australia
Appointed: 18 August 1897
Reported: 23 May 1898 together with appendices and minutes of evidence
Chairperson: C. H. Rason
WAPP: 1898, no. 26 (v.1–2) 68, xxxvi, 258p. (v.1); 259–637p. (v.2)

Royal Commission on the Postal and Telegraphic Service of Western Australia
Appointed: 1 February 1899
Reported: 25 October 1899 together with minutes of evidence
Chairperson: T. F. Quinlan
WAPP: 1899, no. 42 (v.2) xxiii, 290p.

Royal Commission appointed to inquire into the administration of the Locomotive Branch of the Western Australian Government Railways
Appointed: 23 August 1899
Reported: 29 November 1899
Chairperson: R. Speight
WAPP: 1899, no. A22 (v.3) 235p.

Royal Commission on the Railway and Customs Departments of Western Australia
Appointed: 30 November 1900
Reported: 27 June 1901
Chairperson: R. Speight
WAPP: 1901/02, no. 27 (v.2) xii, 301p.

Appendix 11

Royal Commission on the Collie coal dispute
Appointed: 14 February 1901
Reported: 4 March 1901
Chairperson: J. W. Croft
WAPP: 1901/02, no. 16 (v.2) 11p.

Royal Commission of Inquiry into the rabbit question
Appointed: 18 February 1901
Reported: 21 March 1901
Chairperson: R. Bush
WAPP: 1901/02, no. 10 (v.1) 71p.

Royal Commission appointed to inquire into and report upon the conduct and completion of the Coolgardie Water Scheme
Appointed: 26 February 1902
Reported: 22 July 1902
Chairperson: C. Harper
WAPP: 1902, no. 11 (v.1, part 2) iv, xxii, 375p.

Royal Commission on forestry
Appointed: 22 April 1903
Reported: 6 August 1903 First progress report
Chairperson: C. Harper
WAPP: 1903/04, no. 24 (v.2, part 1) vi, 192p.

Royal Commission on forestry
Appointed: 22 April 1903
Reported: 19 May 1904 Final report
Chairperson: C. Harper
WAPP: 1904, no. 11 (v.1) 56p.

Royal Commission on the ventilation and sanitation of mines
Appointed: 20 April 1904
Reported: 25 February 1905 together with appendices and minutes of evidence
Chairperson: A. Montgomery
WAPP: 1905, no. 6 (v.1) 500p. 5th Parliament, 2nd session

Royal Commission on the immigration of non-British labour
Appointed: 25 May 1904
Reported: 16 November 1904 together with appendices and minutes of evidence
Chairperson: A. Montgomery
WAPP: 1904, no. A7 (v.2) 102p.

Royal Commission appointed to inquire into matters pertaining to the Boulder Deep Levels
Limited, Kalgoorlie
Appointed: 22 June 1904
Reported: 30 November 1904 together with appendices and minutes of evidence
Chairperson: P. Dowley
WAPP: 1904, no. A13 (v.2) 136p.

Royal Commission on the condition of the Natives
Appointed: 31 August 1904
Reported: 29 December 1904
Chairperson: W. E. Roth
WAPP: 1905, no. 5 (v.1) 121p. 5th Parliament, 2nd session

Royal Commission appointed to inquire into matters pertaining to Great Boulder Perseverance
Gold Mining Company Limited, Kalgoorlie
Appointed: 31 August 1904
Reported: 31 December 1904 together with appendices and minutes of evidence
Chairperson: P. Dowley
WAPP: 1905, no. 3 (v.1) 137p. 5th Parliament, 2nd session

Royal Commission on the Collie coalfield
Appointed: 31 August 1904
Reported: 2 May 1905 together with appendices, geological map and section and minutes of
evidence
Chairperson: R. L. Jack
WAPP: 1905, no. 9 (v.2) 271p. 5th Parliament, 2nd session

Royal Commission on ocean freights, etc.
Appointed: 24 January 1905
Reported: 15 May 1905 together with appendices
Chairperson: A. J. Diamond
WAPP: 1905, no. 8 (v.1) 190p. 5th Parliament, 2nd session

Royal Commission on immigration
Appointed: 6 February 1905
Reported: 18 July 1905 together with appendices and minutes of evidence
Chairperson: C. Harper
WAPP: 1905, no. 17 (v.2) lv, 414p. 5th Parliament, 2nd session

Royal Commission on charges made against high officials in the service of the Western
Australian Government Railways
Appointed: 15 September 1906
Reported: 4 October 1906
Chairperson: R. F. McMillan
WAPP: 1906, no. A6 (v.2) 44p.

Appendix 11

Royal Commission to inquire into and report upon the meat supply
Appointed: 21 August 1908
Reported: 18 December 1908
Chairperson: R. W. Pennefather
WAPP: 1908/09, no. 21 (v.2) vii, 400p.

Royal Commission on the establishment of a University
Appointed: 6 January 1909
Reported: 8 September 1910
Chairperson: J. W. Hackett
WAPP: 1910/11, no. 11 (v.2) 45, 12p.

Royal Commission on the methods of construction and supervision of all sewerage and stormwater works in the metropolitan area
Appointed: 23 June 1909
Reported: 10 July 1909 together with minutes of evidence
Chairperson: C. E. Oliver
WAPP: 1909, no. 3 (v.1) xi, 39p.

Royal Commission on pulmonary diseases amongst miners
Appointed: 2 March 1910
Reported: 4 October 1910
Chairperson: J. H. L. Cumpston
WAPP: 1910/11, no. 12 (v.2) 105p.

Royal Commission on miners' lung diseases
Appointed: 16 August 1911
Reported: 5 December 1911 together with minutes of evidence, appendices, illustrations
Chairperson: R. L. Jack
WAPP: 1911/12, no. A6 (v.2) 371p.

Royal Commission on uniform standards for foods and drugs in the states of the Commonwealth of Australia
Appointed: 13 March 1912
Reported: 26 June 1913 together with evidence and appendices
Chairperson: J. A. Thompson
WAPP: 1913, no. A2 (v.2) lxxii, 282p. 8th Parliament, 3rd session

Royal Commission on the Collie coal industry
Appointed: 17 March 1914
Reported: 10 November 1916
Chairperson: W. G. Woolnough
WAPP: 1916/17, no. 14 (v.2) lxxxi, 268p.

Royal Commission on the control and management of the State Implement Works
Appointed: 25 August 1915
Reported: 20 October 1915
Chairperson: J. A. Northmore
WAPP: 1915, no. 19 (v.2) x, 281p.

Royal Commission on the Mallee Belt and Esperance Lands
Appointed: 13 September 1916
Reported: 11 July 1917
Chairperson: C. E. Dempster
WAPP: 1917, no. 5 (v.2) xvi, 192p.

Royal Commission on the agricultural industries of Western Australia
Appointed: 3 September 1916
Reported: 22 November 1917 Progress report on the wheat-growing portion of the South-West division of the State together with minutes of evidence, indices and appendices
Chairperson: J. O. Giles
WAPP: 1917/18, no. 7 (v.2) lii, 736p. 10th Parliament, 1st session

Royal Commission on the agricultural industries of Western Australia
Appointed: 13 September 1916
Reported: 17 May 1918 Second progress report on the settled portions of the South-West coastal districts including minutes of evidence, indices and appendices together with a final review of the operations of the Commission
Chairperson: J. O. Giles
WAPP: 1917/18, no. 15 (v.2) xxix, 178p. 10th Parliament, 1st session

Royal Commission appointed to inquire into the transactions between the Government of Western Australia and Mr S. V. Nevanas in regard to the Wyndham Freezing Works
Appointed: 6 December 1916
Reported: 29 June 1917
Chairperson: R. B. Burnside
WAPP: 1917, no. 4, xix, 100p.

Royal Commission appointed to inquire into the conduct of Captain A. Williamson, pilot of the SS *Ulysses*
Appointed: 13 December 1916
Reported: 26 February 1917
Chairperson: A. S. Canning
WAPP: 1917, no. 2, x, 61p.

Royal Commission on the Wheat Marketing Scheme
Date Appointed: 12 June 1918
Date Reported: 24 September 1918 Interim report principally dealing with the future operations and control of the scheme together with minutes of evidence and appendices
Chairperson: W. C. Angwin
WAPP: 1918, no. 4 (v.1) xvi, 349p. 10th Parliament, 2nd session

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Royal Commission on the Wheat Marketing Scheme.
Appointed: 21 June 1918
Reported: 10 December 1918 Final report principally concerning bulk storage and handling of wheat and gristing agreements
Chairperson: W. C. Angwin
WAPP: 1918, no. 16 (v.2) iv, 351–403p. 10th Parliament, 2nd session

Royal Commission appointed to inquire into certain applications for licensed premises at Kulin and Perenjori
Appointed: 10 October 1918
Reported: 6 November 1918
Chairperson: J. Rooth
WAPP: 1918, no. A5 (v.2) 8p. 10th Parliament, 2nd session

Royal Commission on State Children and Charities Department
Appointed: 23 December 1919
Reported: 10 November 1920
Chairperson: J. M. Smith
WAPP: 1921/22, no. 18 (v.2) 24p. 11th Parliament, 1st session

Royal Commission to inquire into and report upon the arrest on a charge of insanity, committal to and detention in the Hospital for the Insane at Claremont of Georgina and Thomas Mable
Appointed: 22 December 1920
Reported: 15 March 1921
Chairperson: A. B. Kidson
WAPP: 1921/22, no. 2 (v.1) 49p. 11th Parliament, 1st session

Royal Commission to inquire into and report upon the system of public elementary education followed in the state of Western Australia and the administration of the Acts relating thereto
Appointed: 11 May 1921
Reported: 22 July 1921
Chairperson: P. Board
WAPP: 1921/22, no. 4 (v.1) 33p. 11th Parliament, 1st session

Royal Commission on hospitals
Appointed: November 1921
Reported: 5 September 1922
Chairperson: F. E. Gibson
WAPP: 1922/23, no. 13 (v.2) x, 55p. 11th Parliament, 2nd session

Royal Commission on the Waroona–Lake Clifton railway
Appointed: 13 January 1922
Reported: 20 March 1922
Chairperson: C. L. Stawell
WAPP: 1922/23, no. 4 (v.1) 9 57p. 11th Parliament, 2nd session

Royal Commission on forestry
Appointed: 18 January 1922
Reported: 1922
Chairperson: W. G. Pickering
WAPP: 1922/23, no. 31 (v.2) 20p. 11th Parliament, 2nd session

Royal Commission appointed to inquire into and report upon the establishment of the settlement at Kendenup
Appointed: 18 January 1922
Reported: 1 August 1922
Chairperson: W. Grogan
WAPP: 1922/23, no. 10 (v.1) 56p. 11th Parliament, 2nd session

Royal Commission on licensing
Appointed: 11 February 1922
Reported: 7 July 1922
Chairperson: H. W. Mann
WAPP: 1922/23, no. 2 (v.1) 24p. 11th Parliament, 2nd session

Royal Commission on the proposed metropolitan tramway extensions
Appointed: 11 February 1922
Reported: 24 July 1922
Chairperson: A. Clydesdale
WAPP: 1922/23, no. 6 (v.1) ix, 51p. 11th Parliament, 2nd session

Royal Commission appointed to inquire into the system of State Railways
Appointed: 18 February 1922
Reported: 25 March 1922 progress report, 17 July 1922 final report
Chairperson: G.W. Stead
WAPP: 1922/23, no. 7 (v.1) xxxii, 344p. 11th Parliament, 2nd session

Royal Commission appointed to inquire into and report upon War Relief Funds
Appointed: 20 September 1922
Reported: 27 November 1923
Chairperson: J. S. Denton
WAPP: 1926, no. 17 (v.2) 4p.

Royal Commission on repatriated soldiers of the A.I.F. under the *Discharged Soldiers' Settlement Act*, 1918.
Appointed: 9 March 1923
Reported: 26 July 1923
Chairperson: A. A. Wilson
WAPP: 1923, no. 3 (v.1) 101p. 11th Parliament, 3rd session

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Royal Commission appointed to inquire into the operations of the Government in connection with the purchase and development of the Peel and Bateman estates
Appointed: 28 December 1923
Reported: 31 March 1924
Chairperson: J. J. Holmes
WAPP: 1924, no. 1 (v.1) xv, 123p.

Royal Commission on group settlement
Appointed: 10 September 1924
Reported: 9 June 1925
Chairperson: C. W. Harper
WAPP: 1925, no. 5 (v.1) xxx, 213p.

Royal Commission on the metropolitan milk supply
Appointed: 16 January 1925
Reported: 22 June 1925
Chairperson: J. W. Burgess
WAPP: 1925, no. 4 (v.1) 27p.

Royal Commission on the mining industry
Appointed: 13 February 1925
Reported: 12 June 1925
Chairperson: C. K. Thomas
WAPP: 1925, no. 3 (v.1) xxvii, 168p.

Royal Commission of Inquiry into alleged killing and burning of bodies of Aborigines in East Kimberley and into police methods when effecting arrests
Appointed: 26 January 1927
Reported: 21 May 1927
Chairperson: G. T. Wood
WAPP: 1927, no. 3 (v.1) xvii, 92p.

Royal Commission appointed to inquire into the meat industry in Western Australia, 1928
Appointed: 24 April 1928
Reported: 29 September 1928
Chairperson: M. P. Durack
WAPP: 1928, no.14 (v.1) xxv, 118p. 13th Parliament, 3rd session

Royal Commission appointed to inquire into and report upon the coal mining industry of Western Australia, Part 1
Appointed: 27 January 1931
Reported: 20 February 1931
WAPP: 1930/1, no. 21 (v.3) xv, 68p.

Royal Commission appointed to inquire into and report upon the coal mining industry of Western Australia, Part 2
Appointed: 27 January 1931
Reported: 9 January 1933
WAPP: 933, no. 2 (v.1) xlv, 69–226p.

Royal Commission appointed to inquire into the disabilities affecting the agricultural industry of Western Australia
Appointed: 26 May 1931
Reported: 31 July 1931
Chairperson: A. H. Dickson
WAPP: 1930/1, no. 22 (v.3) 49p.

Royal Commission on the administration and application of the regulations under the *Stock Diseases Act* 1895 as published in the *Government Gazette* on 12 October 1929
Appointed: 27 October 1931
Reported: 16 August 1932
Chairperson: M. Henry
WAPP: 1932, no. 1, 13p.

Royal Commission on dairy farming in the South-West
Appointed: 4 February 1932
Reported: 15 June 1932
Chairperson: A. Yeates
WAPP: 1932, no. 4, 22p.

Royal Commission on Agricultural Bank
Appointed: 19 September 1933
Reported: 25 May 1934
Chairperson: H. Hale
WAPP: 1934, no. 1 (v.1) x, 166p. 15th Parliament, 3rd session

Royal Commission on stored wheat for 1929–30 season
Appointed: 16 November 1933
Reported: 5 March 1934
Chairperson: S. Bennett
WAPP: 1934, no. 2 (v.1) 33p. 15th Parliament, 3rd session

Royal Commission appointed to investigate, report and advise upon matters in relation to the condition and treatment of Aborigines
Appointed: 21 February 1934
Reported: 24 January 1935
Chairperson: H. D. Moseley
WAPP: 1935, no. 2 (v.1) 24p.

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Royal Commission on the *Electoral Act* 1907–1921 and other relative matters
Appointed: 31 January 1935
Reported: 26 July 1935
Chairperson: J. C. Willcock
WAPP: 1935, no. 6 (v.2) xi, 36p.

Royal Commission on money lending and hire purchase traders
Appointed: 2 July 1936
Reported: 26 August 1936
Chairperson: H. D. Moseley
WAPP: 1937, no. 12 (v.2) 10p.

Royal Commission on Claremont Hospital for the Insane (Custody of Criminally Insane Persons)
Appointed: 17 November 1936
Reported: 15 December 1936
Chairperson: H. D. Moseley
WAPP: 1937, no. 1 (v.1) 6p.

Royal Commission investigating certain charges of corruption
Appointed: 24 December 1936
Reported: 8 February 1937
Chairperson: P. L. Hart
WAPP: 1937, no. 3 (v.1) xxiv

Royal Commission on youth employment and the apprenticeship system
Appointed: 5 April 1937
Reported: 28 February 1938
Chairperson: A. A. Wolff
WAPP: 1938, no. 4 (v.1) cxciv, 265p.

Honorary Royal Commission on light lands and poison-infested lands
Appointed: 14 April 1938
Reported: 1 September 1938
Chairperson: C. G. Latham
WAPP: 1938, no. 11 (v.2) 29p.

Royal Commission appointed to inquire into the administration of the Municipal Council of the City of Perth
Appointed: 25 May 1938
Reported: 9 November 1938
Chairperson: H. S. Raphael
WAPP: 1938, no. 20 (v.2) 19p.

Royal Commission appointed to inquire into the Heathcote Mental Reception Home and the administration of mental hospitals generally
Appointed: 6 September 1938
Reported: 30 November 1938
Chairperson: H. D. Moseley
WAPP: 1938, no. 24 (v.2) 19p.

Royal Commission on the South-West National Power Scheme
Appointed: 3 November 1938
Reported: 2 August 1940
Chairperson: F. E. Shaw
WAPP: 1940, no. 6 (v.1) 10p.

Royal Commission on stored wheat
Appointed: 8 February 1940
Reported: 9 October 1940
Chairperson: A. A. Wolff
WAPP: 40, no. 15 (v.2) 42p.

Royal Commission on coal supplies and development in the Collie Coalfields, 1940
Appointed: 6 March 1940
Reported: 18 November 1940
Chairperson: R. C. Wilson
WAPP: 1940, no. 20 (v.2) 43p.

Royal Commission appointed to inquire into and report upon the financial and economic position of the pastoral industry in the leasehold areas in Western Australia
Appointed: 29 March 1940
Reported: 24 October 1940
Chairperson: W. V. Fyfe
WAPP: 1940, no. 17 (v.2) x, 186p.

Royal Commission on the administration of the University of Western Australia
Appointed: 19 March 1941
Reported: 14 April 1942
Chairperson: A. A. Wolff
WAPP: 1941/42, no. 20 (v.2) iv, 148p. 17th Parliament, 3rd session

Royal Commission on the provisions of the Companies Bill
Appointed: 9 July 1941
Reported: 29 July 1941
Chairperson: E. Nulsen
WAPP: 1941/42, no. 5, (v.1) lxiii, 191p. 17th Parliament, 3rd session

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Royal Commission appointed to inquire into the care and reform of youthful delinquents
Appointed: 11 May 1943
Reported: 10 August 1943
Chairperson: Sir H. P. Colebatch
WAPP: 1943, no. 1, 6p. 17th Parliament, 5th session

Royal Commission on personal covenants in mortgages of land
Appointed: 11 January 1945
Reported: 30 October 1945
Chairperson: J. E. Shillington
WAPP: 1945, no. 5 (v.2) 20p.

Royal Commission on the *Vermin Act*
Appointed: 2 May 1945
Reported: 17 May 1945
Chairperson: A. F. Watts
WAPP: 1945, no. 4 (v.2) 28p.

Royal Commission appointed to inquire into Australian Standard Garratt Locomotive
Appointed: 18 October 1945
Reported: 29 August 1946
Chairperson: A. A. Wolff
WAPP: 1948, no. 10 (v.1) 133p.

Royal Commission appointed to inquire into the administration, conduct and control of the sport of trotting in the State of Western Australia
Appointed: 6 March 1946
Reported: 19 June 1946
Chairperson: C. McLean
WAPP: 1946, no. 12 (v.2) 27p.

Royal Commission on the development of the outports of the State
Appointed: 3 April 1946
Reported: 1 August 1946
Chairperson: H. H. Styants
WAPP: 1946, no. 14 (v.2) 25p.

Royal Commission on wheat marketing and stabilisation
Appointed: 5 February 1947
Reported: 14 May 1947
Chairperson: J. S. Teasdale
WAPP: 1947, no. 8 (v.1) 19p.

Royal Commission appointed to inquire into the Midland Junction Workshops of the Western Australian Government Railways
Appointed: 26 June 1947
Reported: 28 August 1947 first interim report without graphs
Chairperson: A. J. Gibson
WAPP: 1948, no. 7 (v.1) 17p.

Royal Commission appointed to inquire into (inter alia) the supply of local coal to the Western Australian Government Railways
Appointed: 26 June 1947
Reported: 1 December 1947 second interim report
Chairperson: A. J. Gibson
WAPP: 1948, no. 6 (v.1) 17p.

Royal Commission on Workers' Compensation
Appointed: 23 July 1947
Reported: 15 April 1948
Chairperson: G. W. Simpson
WAPP: 1948, no. 12 (v.2) 26p.

Royal Commission appointed to inquire into the management, workings and control of the Western Australian Government Railways
Appointed: 28 August 1947
Reported: 18 December 1947 report without graphs
Chairperson: A. J. Gibson
WAPP: 1948, no. 10 (v.1) 133p.

Royal Commission appointed to inquire into and report upon the financial and economic position of the milk industry in Western Australia
Appointed: 5 November 1947
Reported: 28 January 1948 together with appendix
Chairperson: W. E. Stannard
WAPP: 1948, no. 5 (v.1) 12p.

Royal Commission on the State Housing Commission
Appointed: 7 November 1947
Reported: 25 March 1948
Chairperson: H. D. Moseley
WAPP: 1948, no. 13 (v.2) 17p.

Royal Commission on betting
Appointed: 12 March 1948
Reported: 8 July 1948
Chairperson: C. McLean
WAPP: 1948, no. 18 (v.2) 36p.

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Royal Commission appointed to inquire into some aspects of the administration of the Police Force of Western Australia under the Commissioner of Police
Appointed: 21 November 1948
Reported: 9 March 1949
Chairperson: C. H. Book
WAPP: 1949, no. 29 (v.2) 23p.

Royal Commission on Local Government Bill
Appointed: 27 January 1950 & 16 May 1950
Reported: 24 October 1950
Chairperson: A. E. White
WAPP: 1951, (v.2) 67p. 20th Parliament, 2nd session

Royal Commission appointed to inquire into and report upon forestry and timber matters in Western Australia
Appointed: 14 March 1951 and 11 July 1951
Reported: 14 December 1951
Chairperson: G. J. Rodger
WAPP: 1952, (v.3) 61p. 20th Parliament, 4th session

Honorary Royal Commission appointed to inquire into the effect generally of the application of lime with super upon the fertility of the soil
Appointed: 12 September 1951
Reported: 14 October 1952
Chairperson: J. M. Hearman
WAPP: 1952, v.3, 8p. 20th Parliament, 4th session

Honorary Royal Commission on the Town Planning and Development Act Amendment Bill, 1951
Appointed: 26 March 1952
Reported: 7 July 1952
Chairperson: H. Hearn
WAPP: 1952, v.3, 16p. 20th Parliament, 4th session

Royal Commission on kindergartens
Appointed: 13 August 1952
Reported: 29 March 1953
Chairperson: R. McDonald
WAPP: 1953, v.3, 20p.

Royal Commission into matters relating to the marketing and distribution of potatoes, onions and eggs
Appointed: 4 May 1955
Reported: 16 November 1955, 22 November 1955, 25 November 1955 (four reports: report on general inquiry and separate reports for each of the three industries)
Chairperson: A. G. Smith
WAPP: 1955, v.3, 3, 35, 18, 37p.

Honorary Royal Commission into matters relating to the retailing of motor spirits and accessories
Appointed: 12 January 1956
Reported: 9 October 1956
Chairperson: L. C. Diver
WAPP: 1956, v.3, 59p.

Honorary Royal Commission into matters relating to the retailing of motor spirits and accessories.
Appointed: Corrigendum to the report
Reported: 9 July 1957
Chairperson: L. C. Diver
WAPP: 1957, v.4, 1p

Honorary Royal Commission appointed to inquire into and report upon the War Service Land Settlement scheme in Western Australia and to recommend such changes in procedure and methods as may seem desirable to ensure the early success of the scheme
Appointed: 20 December 1956
Reported: 11 April 1957
Chairperson: L. A. Logan
WAPP: 1957, v.4, 24p.

Honorary Royal Commission on restrictive trade practices and legislation
Appointed: 1 February 1957
Terms of reference amended: 3 April 1957
Reported: 7 November 1957
Chairperson: A. F. Watts
WAPP: 1957, v.4, 19p.

Royal Commission on betting
Appointed: 18 June 1959
Reported: 4 December 1959
Chairperson: G. C. Ligertwood
WAPP: 1960, v.4, 53p.

Honorary Royal Commission appointed to inquire into the provisions of the Natural Therapists Bill
Appointed: 10 February 1960
Reported: 23 August 1961
Chairperson: H. N. Guthrie
WAPP: 1961, v.3, 19p.

Appendix 11

Royal Commission appointed to Inquire into and report upon the bush fires of December 1960 and January, February and March 1961 in Western Australia, the measures necessary or desirable to prevent and control such fires and to protect life and property in the future and the basic requirements for an effective State Fire Emergency organisation
Appointed: 27 April 1961
Reported: 18 August 1961
Chairperson: G. J. Rodger

Royal Commission on procedures affecting financial returns from apple growing
Appointed: 12 September 1961
Reported: 12 July 1962
Chairperson: W. C. Gillespie
WAPP: 1962, v.4, 62p.

Honorary Royal Commission to inquire into and report upon the *Fisheries Act* 1905–1962 in its application to the crayfishing industry in particular
Appointed: 25 February 1964
Reported: 30 July 1964
Chairperson: N. E. Baxter
WAPP: 1964, v.3, 16p.

Royal Commission in relation to the safety of ships to which the *Western Australian Marine Act* 1948–1962 applies and which proceed outside inland waters and those aboard them while at sea
Appointed: 18 March 1964
Reported: 9 November 1964
Chairperson: W. J. Wallwork
WAPP: 1965, v.4, 70p.

Royal Commission on newspaper articles regarding the Totalisator Agency Board
Appointed: 7 June 1967
Reported: 2 November 1967
Chairperson: J. H. Forrest
WAPP: 1967, v.4, 57, 15p.

Honorary Royal Commission appointed to inquire into hire purchase and other agreements
Appointed: 3 November 1971
Reported: 8 August 1972
Chairperson: W. R. McPharlin
WAPP: 1972, v.5, 77p.

Honorary Royal Commission of Inquiry into the Corridor Plan for Perth
Appointed: 9 February 1972
Reported: 7 November 1972
Chairperson: F. R. White
WAPP: 1972, v.5, 77p.

Royal Commission upon various allegations of assaults on or brutality to prisoners in Fremantle Prison and of discrimination against Aboriginal or part-Aboriginal prisoners therein and upon certain other matters touching that Prison, its inmates and staff
Appointed: 20 September 1972
Terms of reference enlarged: 18 October 1972
Reported: 14 March 1973
Chairperson: R. E. Jones
WAPP: 1973, v.6, 179p.

Honorary Royal Commission appointed to inquire into and report upon the treatment of alcohol and drug dependents in Western Australia
Appointed: 14 November 1972
Reported: 1 May 1973
Chairperson: R. J. L. Williams
WAPP: 1973, v.6, 70p.

Royal Commission into gambling
Appointed: 11 December 1973
Reported: September 1974
Chairperson: P. R. Adams
WAPP: 1974, v.4, 141p.

Honorary Royal Commission to inquire into and report upon matters relating to homosexuality
Appointed: 16 January 1974
Reported: 18 September 1974
Chairperson: R. J. L. Williams
WAPP: 1975, v.4, 46p.

Royal Commission upon airline services in the State and related matters
Appointed: 18 July 1974
Reported: April 1975
Chairperson: R. R. Sholl
WAPP: 1975, v.4 viii, 358p.

Royal Commission on the administration of the Stirling City Council Effluent Disposal Service
Appointed: 1974
Reported: 1974

Royal Commission into Aboriginal Affairs
Reported: July 1974
Chairperson: L. C. Furnell

Appendix 11

Royal Commissions to inquire into and report upon certain incidents in which Aborigines were involved in the Laverton area.
Appointed: 23 April 1975
Reported: 13 April 1976
Chairperson: G. D. Clarkson
WAPP: 1976, v.8 viii, 261p.

Royal Commission into matters surrounding the administration of law relating to prostitution
Appointed: 14 October 1975
Reported: 10 August 1976
Chairperson: J. G. Norris
WAPP: 1976, v.8 v, 165p.

Honorary Royal Commission appointed to inquire into the marketing and distribution of beef and sheep meat products
Appointed: 17 December 1975
Reported: 28 October 1976
Chairperson: A. V. Crane
WAPP: v.8 vi, 369p. (report not numbered)

Royal Commission into matters surrounding the trial of Baymis Ugle and subsequent investigations relating thereto
Appointed: 1976
Reported: 1976
Chairperson: Sir John Evenden Virtue

Royal Commission on the State Government Insurance Office
Appointed: 1976
Reported: 1976

Royal Commission into parliamentary deadlocks
Appointed: 1984
Reported: 1985
Chairperson: E. R. Edwards

Royal Commission into the commercial activities of Government and other matters (Part I)
Appointed: 1990
Reported: 20 October 1992
Chairperson: G. A. Kennedy

Royal Commission into the commercial activities of Government and other matters (Part II)
Appointed: 1990
Reported: 12 November 1992
Chairperson: G. A. Kennedy

Inquiry into the City of Wanneroo (Powers of a Royal Commission)
Appointed: January 1992
Reported: December 1992
Chairperson: Peter Kyle

Royal Commission into the City of Wanneroo
Appointed: 1995
Interim Report: August 1996
Chairperson: Peter Kyle
Final Report: September 1997
Chairperson: Roger Davis

Royal Commission into the finance broking industry
Appointed: 11 June 2001
Reported: December 2001
Chairperson: Ian Temby QC
WAPP: Tabled 2 March 2004 [See paper no. 1160]

Response by government agencies to complaints of family violence and child abuse in
Aboriginal communities
Appointed: 28 December 2001
Reported: 31 July 2002
Chairperson: Mrs Sue Gordon AM
WAPP: Tabled 15 August 2002 [See paper no. 139]

Royal Commission into whether there has been any corrupt or criminal conduct by Western
Australian police officers
Appointed: 12 December 2001
Reported: January 2004
Chairperson: Hon. Geoffrey Alexander Kennedy AO QC
WAPP: Tabled 2 March 2004 [See paper nos 2131 and 2132]

Compiled by Niamh Corbett
Further reading: H. Phillips et al, *Representing the people: parliamentary government in
Western Australia* (1998); E. Zalums, *A bibliography of Western Australian Royal Commissions,
Select Committees of Parliament and Boards of Inquiry, 1870–1979* (1980)